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THE MEANING OF CLASS DISTINCTIONS

THE REV. J. C. NUNNS M.A.

BEFORE any attempt is made to solve the problem with which this paper deals it is necessary to convince the reader that the problem exists. Much is written and said to-day about class distinctions, both by those who announce with satisfaction their growing disappearance, and by those who half guiltily admit their existence, but it never seems to occur to such writers that the nature of these distinctions is itself something of a mystery. We take it for granted as one of the most obvious and commonplace facts of daily life. It seems hardly likely that the examination of a thing so ubiquitous and immemorial will yield anything new. My object will be to maintain that this attitude is mistaken, and that the idea of "class" is not really self explanatory, but deserves a closer analysis than it usually gets. And if this proves to be the case, it must be admitted that the subject is of importance. Many political and social problems are deeply involved in the fact of class distinctions. Many who believe in a possible regeneration of human society would gladly surrender much to secure a world where poverty should be no more, yet hesitate before the prospect of a loss, through diffusion, of cultural values which they feel to be infinitely precious, and which give to the existing order a greater claim to permanence than it would otherwise possess. We most of us hardly know our own minds in this matter. We yield social distinctions their place, but we do so shamefacedly, as though confessing to a mere unjustified conservatism. Respect for superiors shows signs of becoming a thing of the past, if we wish it retained, have we a right to do so, or are we making an unreasonable claim with no moral principle behind it? Particularly in two provinces where the idealist is apt to place his hopes for the

future, education and religion, he must often confess that the stubborn fact of class is the rock on which they are wrecked, and that a better understanding of it may well be a condition of success. Give me the child, says the educationist, and I will move the world. He has been given the child for two generations, in some quarters with excellent results. But with the "lowest" strata of society (not always equivalent to the poorest) the school can do but little. Generations after generations of children come, and turn out in the end very much what their home and parents have made them, an obstinate but indefinable social tradition forms a legacy against which school training avails but little. Religious workers have the same tale to tell. Their most earnest efforts are often expended in rough districts, but they succeed only among the few whose already existing class superiority has made success a foregone conclusion. A church or mission is opened for the degraded, and a thin sprinkling of respectables is all there is to show as the result.

The object of this article is an elementary one. It is to examine a concept, not to venture on questions of its application, and in order to clear the ground it may be well to begin with a few negative considerations.

(1) The word "class" is not merely or mainly an economic term. We label classes, it is true, according to the occupations in which their members are engaged, but a very little thought will convince us that the real meaning and permanence of class distinctions is based not on the occupations, but on the personal characteristics of the members of different classes, and that these characteristics are not derived in any obvious or inevitable way from economic causes. In assigning a man to a certain class, we are not referring to his ancestry or occupation or income, so much as to certain habits of behaviour and mind which characterize the group to which he belongs. We take a certain attitude to a man because he is a member of the labouring class, in reality we take that attitude because we assume from experience that being a member of that class he will possess certain characteristics and behave in certain ways. If on meeting him we found that these characteristics were absent we should at once act accordingly. If professional men, artisans, and labourers were all "socially" alike, alike that is in the personal characteristics we are considering, so that, for instance, intermarriage and the free use of surnames came naturally, the word class as we use it to-day would cease to possess meaning, and it may be added, our present economic contrasts would not be tolerated for a moment. This is not to deny that these characteristics have their origin in economic causes, but merely to maintain that there are two types of classification, the economic and the social, which run parallel. They act and react on one another. Economic inferiority tends to lead to inferiority of

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personal characteristic, which in its turn tends to perpetuate the economic. The boy of a rough class owes his demerits in the long run to economic causes, but it is also those very demerits (none too easy to give an account of as we shall see) which prevent him from finding employment of a higher kind, and rising in the social ladder. This vicious circle is one of the standing difficulties of those who have to deal with the problems of employment.

(2) The distinction between classes is not to any large degree an intellectual one, as the somewhat misleading terms 'educated' and 'uneducated' might suggest. It cannot be deduced from economic causes on the ground that the wealthier sections of society can afford extended schooling and have leisure for intellectual culture. These things no doubt have their effect, but they only account for a small proportion of the facts. It should be remembered that social distinctions have often been most marked where the intellectual education of the upper classes was non-existent. It is so in some parts of the world to-day. It was so in Europe in mediæval times when kings and nobles left the art of reading to the humble clerk. It is only since the Renaissance that the aristocratic ideal has been modified by the infiltration of intellectual culture. It may perhaps be replied that intellectual culture does not proceed solely from schooling; that positions of responsibility and power bring out qualities that would otherwise remain dormant, that a person engaged in the larger things of life will catch something of their greatness and so be removed from the poverty of outlook and pettiness of interest that mar a lower class. Yet all this hardly suffices to account for the actual relations of classes. The world is not so fond of intellectual ideals that a deficiency in that respect would constitute what we know as social inferiority.

(3) If the possibilities of wealth do not explain the phenomenon from one end, no more do the necessities of poverty from the other. Long hours of work and little leisure, overcrowding, laborious or brutalizing occupations, these all have no doubt their deteriorating effect, but they only account for a small part of the ubiquitous facts with which we are dealing. To begin with, they only apply to a certain proportion of the social scale wherever class is a phenomenon which runs all through it. Secondly, laborious manual work, as colonial experience frequently proves, is quite compatible with all that is real in social values, and there is no reason to suppose that it would be otherwise even if spread over several generations, there is little in the work or housing conditions of the artisan to prevent him from rising to high levels of culture. And thirdly, the scale we are familiar with is not a universal one, in Japan for instance, at a recent date, the trader has ranked below the manual labourer.

(4) These distinctions are not merely conventional. To assume that they are is a very common fallacy, frequently proceeding from a generous regard and affection for the humbler classes. Social and philanthropic workers often form such genuine friendships with persons of a class entirely removed from their own, that they are apt to forget the strict bounds within which such friendships really exist. The barriers between classes do not trouble us much at most times: they are so habitually accepted as to become unobserved, but they are very acutely felt directly we try to overleap them. For this reason their essentials are kept out of sight and carefully avoided, because it is instinctively felt that their visible emergence would go far to shatter the friendship formed. But that social distinctions are real and deep is surely proved by the strenuous efforts which they evoke as an object of endeavour. Everywhere we see people making great sacrifices to rise above and still more not to sink below, their class. They are touched to the quick if membership of it is questioned and it constitutes a dividing-line which may be outgrown, but which we cannot with the best will in the world ignore so long as it exists. It is purely arbitrary to discount all these strivings as misplaced or contemptible. Of course there is often a trivial and conventional element in all this. External shibboleths are encouraged by a higher class in order to accentuate differences and form an esoteric bond between its members and a class which has once gained prestige can give its sanction to all kinds of behaviour of no intrinsic value, but when full allowance has been made for this the undoubted fact remains that the higher and lower with which we are dealing is among the most stubborn and potent forces in society. And if we are tempted to point to the pettiness and conventionality of many accepted badges of distinction, we must remember that small things are indicative of great. We are justified in attaching importance to trifles when these trifles are straws showing how the wind blows. We interpret our neighbours as we interpret everything else, not by the tiny proportion of things we see, but by the vast proportion of things we infer. External behaviour, trivial enough in itself, forms the key to a vast underlying system which is not trivial. This is true both of our estimates of personal character and of social standing. In both cases we unconsciously argue from the few things our neighbour does to the thousand and one things we are convinced he would do: and a chance remark may in either case condemn him beyond reprieve.

(5) The distinctions of class are not analogous to other systems of grouping. We have not here to deal with mere rival groups, each with its claim to superiority, such as we might find in school-life, in artistic or professional coteries, or in rival nations. Social superiority, whatever it may mean, is not merely claimed by the higher, but is

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tacitly acknowledged by the lower, often with a reluctance which makes the acknowledgment only the more convincing. The higher has an ascendancy over the lower which constantly asserts and justifies itself. The lower stands abashed in the presence of the higher, but there is no converse process. This cannot be explained as a mere acknowledgment of an existing hierarchy of classes, it is the cause rather than the effect of such a hierarchy. The class system derives its permanence and vitality from a valuation which is psychological. Other systems of grouping are horizontal, this is vertical. There are, of course, many habits and usages which are, from our present point of view, neutral, with these we are not concerned, we are considering those only which have the effect of making their possessors confessedly higher or lower, what the nature of this higher and lower is is our problem. We must remember its extensiveness. Most people are apt to assume that important lines of division fall somewhere near the point of the scale which they themselves occupy. But equally important divisions occur below them. It is best in fact to rid our minds entirely of the idea of a definite number, whether small or great, of classes, and to think merely of a method of valuation which is found in all parts of the community.

(6) The reluctance mentioned above, to concede more than a conventional value to class distinctions, is probably due to the feeling that otherwise they must be regarded as possessing moral value. It is to this point that we will now pass. Is the distinction between higher and lower in the social sense in any way an ethical one? Shall we say that 'the poor in a lump is bad,' or that 'a man's a man for a' that?' The answer will largely turn on an important, though fairly obvious fact, namely that class characteristics from their nature belong necessarily to the unconscious and habitual, and never to the volitional side of life. It is undeniable that part of our conduct and mental life is fully conscious and volitional, part so habitual as to be barely or not at all conscious, and of that again a part is imitative. Clearly, it is only in the latter part that we shall find those resemblances and uniformities upon which classification is based. The volitional side of life will possess all the variety that idiosyncrasy and decision give, and so no classes corresponding to it exist (we are, of course, thinking of actual classes formed by contact, not of ideal classifications). Where imitation reigns, there and there only will classes form themselves. But to specify what part of life this is, except in its simplest forms, might seem an almost impossible task. Certain outward physical habits can of course, easily be ruled off as belonging to the non-volitional, habits, for instance, of pronunciation and gait, which are pre-eminently the mark of class, and to these we may add physiognomy, which in so far as it indicates social status does so by being the ingrained result of ways of thinking and

acting, reaching back to the wholly imitative days of infancy. But when we pass from this handful of outward habits into the illimitable field of mental life, we seem to approach the hopeless morass of the problem of free will. We know that our mental and moral life is an inextricable tangle of what the world forces upon us and what we create for ourselves, and that character and environment act and react unceasingly. We have to be content with vague phrases such as general outlook, mental horizon, prejudices, limitations of upbringing, when we wish to describe that part of a man's activity where he is not exercising initiative, but falling, however little he knows it, into a ready-made groove. But however impossible it may be to draw up a ready-made scheme distinguishing the voluntary from the involuntary, the distinction is not so difficult to recognize in real life, for here we are trained to notice and trace to their origin subtle elements in the behaviour of our neighbours too minute to find a place in language. It is in this field that class-grouping is valid, where conscious action has most scope it ceases to operate.

To remember this will preserve us from the mistake of confusing class qualities with qualities of character. People sometimes place such things as sportsmanship or considerateness or self control among the differentia of class. But these are really excellencies of individuals. There is no class of straightforward or considerate people, virtues of this kind may be commoner in one class than another, but nothing more. We can even distinguish the action, noble or ignoble, of the individual, from the manner of doing it in which class shows itself, the volitional is shot through with the unconscious and so Burke in well known, though perhaps questionable, words, is able to speak of "that sensibility which ennobled whatever it touched, and under which vice itself lost half its evil by losing all its grossness." So it is that classifications of character will always cut right across social lines of division, for moral issues from their very importance force themselves on the attention and become conscious and volitional. Goodness constantly shows a power of reasserting itself in the most unpromising surroundings, and displaying a complete independence of social valuations. The moral life is independent of status and in every class we find almost every variety of moral worth and worthlessness. Without trying to lay down with exactness where unconscious conformity ends and action begins we can see that comparing a person's moral character with his social characteristics, the one is a thing over which he has power and is responsible, while the other is not. And although this makes social status of less importance than character, it also explains our extreme sensitiveness on all matters of class. Just as a person will be indifferent to ridicule if it is directed merely to his actions, but will be hurt if it is somehow felt that he himself is the subject of derision, so the particular poignancy of

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social disdain comes from the fact that it professes to deal not with a person's chance actions, but with his unconscious and therefore fundamental self. We resent criticisms of what we are a hundred times more than criticisms of what we do. The latter may be a temporary aberration, the former deals with our very being. In countries where the colour problem is acute, no taunt can be more deadly than the single word 'nigger'.

The facts, then, are as follows: owing ultimately to economic differences, certain differences of personal characteristic have sprung up which have a power and validity of their own. Class divisions are perpetuated by these far more than by the external differences from which they spring. We are dealing with a method of valuation which is of the greatest importance in human life, if our daily actions and attitudes are a test of importance. We are dealing with something which operates all up and down the social scale, and not merely at one or two points in it. We are dealing with a higher and lower which is neither moral nor intellectual, but would appear to be something *sui generis*. Two questions have therefore to be considered, (1) what is the nature of this higher and lower? (2) what is its derivation? why, in other words, should a class that is higher in an economic sense be also higher in a social sense?

To answer the first we have only to question our everyday experience, and perhaps the best plan is to start from a word which will be found to bring vividly before the mind those elusive habits of thinking and judging which we are trying to fix. "Language," says Dr. Martineau, "is the great confessional of the human heart, and betrays by its abiding record many a natural feeling which would escape our artificial inspection." A word is the centre round which we group phenomena in which we have instinctively found resemblance, and to trace out and gather together the associations which cluster round it is a sure way of laying bare things which would otherwise elude us by their very familiarity. Now it so happens that we have in the English language a word which exactly describes that which is potent in class distinctions. It is the word vulgar. Few words are more difficult to define. The concept of the vulgar does not seem to have received the same attention that has been bestowed by philosophers upon the allied concept of the ludicrous. If it merely corresponded with its etymology, if it merely described, as it may have done at one time, any heterogeneous handful of customs of the common people, it would, of course, carry us no further. But as a matter of fact it has acquired for us a perfectly definite, though extremely intangible, meaning. We have come to give it a far wider application than its primitive one, employing it, for instance, in our criticisms of art and music. The particular defect that it connotes is one that we recognize over and over again in the

most diverse and unexpected quarters, yet always with a sure sense of its identity. For our present purpose we may say that it describes the more glaring and unattractive forms of social demerit, and to study such demerit in its more glaring forms is not to imply that these are representative or widespread, but merely to assert that the nature of a thing is best seen in its extreme manifestations. Perhaps it will be questioned whether we are entitled to look to this concept for an explanation of class distinctions at all points of the social scale. It would be rash, for instance, to claim that principles we may succeed in unravelling have their application at the higher levels of culture. But this is of no great importance, since the differences of class which organize the great mass of the community, which form "class consciousness" and create our everyday social barriers, are a sufficiently important problem in themselves.

Where does vulgarity reside? Primarily in externals, perhaps nowhere so much as in facial expression. And here we seem to be at once in difficulties. What subject is more obscure than physiognomy? But we must remember that we have to deal not so much with inherited features, as with the expression of emotion, or with the residual effects of this. Vulgarity of face is merely the expression of vulgarity of mind, and change of environment will in time go far to alter it. This then, and other similar externals, are symptoms of something lying very deep, which through a kind of aversion divides one human being from another by a great gulf. But what is this aversion? It is not that of moral indignation, such as would be aroused by villainy, it is not that of scorn or derision, such as would be aroused by weakness or foolishness. It is that of *disgust* for that which is ugly in behaviour. The physical emotion of disgust is in a mild form analogous to the mental state produced by the contemplation of vulgarity. Vulgarity is an æsthetic blemish lacking the seriousness of moral defect. There is apparently in the unconscious and habitual part of our behaviour that which gives room for beauty and ugliness, and particularly in those remote outworks, so to speak, of our behaviour which express themselves in face, voice, and manner. We began by saying that class divisions derive their meaning from personal characteristic. We can now go further and define that characteristic as being the æsthetic quality of our unconscious behaviour. But we can go further still. Can we say *why* the things that we have mentioned should possess this uniform and recognizable quality of ugliness? If we were dealing with the more abstract forms of beauty, its notoriously mysterious character might warn us off such an inquiry, but when we are considering human behaviour we expect to be on more familiar ground. I will at any rate offer two tentative suggestions as to what it is in vulgarity that offends.

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Here, to begin with, is an explanation of facial refinement offered by a writer on physiognomy "Great effects," he says, "are obtained by slight movements. Expression resembles all other mechanisms which, in proportion as they are perfected, give more useful work with less expenditure of force".¹ Perhaps such a theory may seem a little too materialistic for something which we feel to be in its essence largely spiritual. Yet certainly clumsiness and want of skill are an element in vulgarity, as the word 'coarse' implies. There is, for instance, a peculiar dullness and flatness which progressively characterizes conversation and ideas as we go lower and lower down the social scale. Dullness of course, is no monopoly of the lower orders, but we seem here to have a particular kind of dullness. It is not merely intellectual poverty as contrasted with culture, it is not merely the trivial mentality of those who are debarred from the larger things of life. Rather there would seem to be in the intricacies of social intercourse a give and take to which they do not respond. A person thrown into the company of his inferiors, and then returning to that of his own social equals, experiences a sensation similar to that of a chess player who returns from a game with a beginner to one of his own level. He has a feeling of relief and exhilaration, once more he is on his mettle and under due criticism, once more his powers of combat find a worthy object. Again such a theory is supported by the undoubtedly close alliance between the vulgar and the ludicrous. In ordinary life we do not notice this, but it comes out clearly enough whenever vulgarity is seen in sharp and unwonted juxtaposition with its opposite. Such a situation has been well worked out by Mr. Wells in the story of Kipps. This explanation, however, does not go far enough, mere want of skill does not repel.

The second suggestion that I would offer is that our aversion from vulgarity is rooted in the instinct of modesty, that the vulgar is in its essence not the clumsy but the shameless. Here we are met by the common use of the word as equivalent to obscene—a vulgar story, a vulgar song, etc. But apart from this use of the word (too euphemistic to be really relevant), there are other of grosser forms at any rate of vulgarity which support this explanation. Take the behaviour of a bank holiday crowd on Hampstead Heath, with its vulgar eating, shouting, and facial distortion. In instances like these, which it is not difficult to vary and multiply, we shall probably agree that vulgarity consists at the root of an absence of shame, of that instinct which seeks to shield from exposure our more intimate physical actions. Should we be right in looking here for a principle which will account for the disgust evoked in a greater or lesser degree by other forms of vulgarity? There is, for instance, a vulgar spite, a

¹ Mantegazza. Contemporary Science Series

vulgar self-complacency, is not the vulgarity in each case a kind of indecent self-exposure? Or if we take something which bears the stamp of vulgarity in one of its more developed forms, some blundering phrase, for instance, in literature or music, shall we not find that its essence lies in a subtle unveiling of motives or feelings which a more sensitive modesty would conceal? Some such explanation seems to be demanded by the fact that the vulgar has always a repellent character, *distinguishing it from mere ignorance or clumsiness*

It will be well at this point to forestall three possible misunderstandings. The assigning of vulgarity to the category of ugliness does not mean that it is incapable of existing alongside of physical beauty. A gramophone record conveys in an astonishing way tone, volume and pitch by one simple mechanism, and a face by a still more marvellous process can express simultaneously, and without mutual interference, character, passing emotion, and class.

Similarly the word repulsion must not be understood as implying dislike. Our reactions to our fellow-men are extremely complicated, and we are apt to be misled by the meagreness of the vocabulary which describes them. We can admire one we do not like, and like one we despise. Attractiveness may be little more than physical, while admiration exercises our higher moral faculties. It is not only different parts of the nature of others that affect us but different parts of ourselves that are affected. The repulsion of vulgarity may exist as an almost unconscious force which does no more than prevent intimacy beyond a certain point, without in any way affecting the free growth of affection or esteem.

Thirdly, the word concealment must not be misunderstood. To represent vulgarity as the exposure of what should be concealed might seem at first like crediting the vulgar person with superior honesty, and making culture a system of organized hypocrisy. But since the exposure in question is as has been shown above, unconscious, no honesty can be claimed on the score of it. Take the vice of self-complacency. A person who exudes this in manner and conversation is often thereby very vulgar. But what we condemn in so classing him is not his self-complacency (we are not at the moment concerned with moral judgments on personal qualities) but his blindness to its ugliness which makes him willing to show it, for this blindness is symptomatic of a settled system of tastes, which (unlike explicit action) places him in a permanent category. Nor, again, does this view of vulgarity make refinement equivalent to reserve. Refinement consists rather in the absence of any need for reserve, the ugly is avoided not by continuous effort but by ingrained habit. A public speaker may unbosom himself with great freedom without any vulgarity. Reserve is the indiscriminate suppression of feeling based on the fear of betraying feeling wrongly. It marks an imperfect

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stage Where true insight exists as to what is worthy and unworthy, this indiscriminate suppression is unnecessary

This intermediate character of reserve and suppression, lying midway between the freedom of complete licence on the one hand and the freedom of intelligent self-control on the other, is well illustrated by the attractiveness which social workers often find in the lowest, as compared with the lower middle classes This is not any mere love of the sordid or of the romantic, it is the attraction of wild creatures as compared with tame In the one class impulse reigns unchecked, and impulse is always attractive, in the other it has been largely suppressed in the supposed interests of respectability But in a higher class still impulse is again allowed a comparatively free rein, because its bounds are instinctively recognized

One of the few writers who has discussed vulgarity with any fullness is Ruskin, who has devoted to it a chapter in *Modern Painters* He considers its essential to be want of sensitiveness, of "that fineness of structure in the body which renders it capable of the most delicate sympathies" This he regards as communicable by descent "By purity of birth the entire system of the human body and soul may be gradually elevated, or by recklessness of birth degraded until there shall be as much difference between the well bred and ill-bred human creature (whatever pains be taken with their education), as between a wolf hound and the vilest mongrel cur" The biology of this theory is hardly likely to command assent to-day, but the stress he lays on sensitiveness is no doubt sound enough To this we shall recur later

The position then that we have now reached is that class distinctions, though running parallel to the economic grading of society, have a foundation of their own which gives them power and vitality, consisting of an obscure æsthetic superiority and inferiority shown largely in externals but reaching also to deeper matters, of which we have tentatively tried to guess the nature We now pass to our second question, namely why the gradations in personal characteristic which we have described should show this close correspondence with economic gradations, why a ruling or wealthy class should acquire habits of greater beauty in behaviour Many people will reply that there is no problem here Of course, they will say, rank produces its befitting qualities, if a person is of a high or middle class, pride and self respect will prevent him from adopting the standard of those beneath him But if we reflect for a moment, we shall see that this is merely to argue in a circle The pride referred to is founded upon the possession of these qualities, it cannot therefore be adduced as an explanation of their origin, though it may be and is a powerful motive towards their retention Self-respect is an individual quality found in all ranks, enforcing some

existing standard not creating one of its own. If self-respect forbids one man to be seen without a collar, it forbids another to be seen with one. Similarly it will not do to say that an upper class has to think of appearances, all classes think of appearances, only with different classes they are a different set of appearances. Nor will the "inferiority complex" help us much, for nine tenths of the inferiority in question is based on the very disqualifications we are considering, and cannot therefore be their cause. We must distinguish, if we would view the matter clearly, between what I may call bare status, the status, we will say, of authority or accepted position, and status plus acquired qualities. In real life the two are intermingled, and status derives half its meaning from the qualities it has created, but in thought, and I maintain in origin, they are distinct. How then does consciousness of status produce the qualities in question, not of course in the individual who merely adopts them through imitation, but in the group to which he belongs? That external grading should produce *some* kind of corresponding habits is only natural. "All accepted orders," says Mr Ramsay MacDonald in his book on Socialism "produce their own justification." As troops when they have captured a position immediately proceed to consolidate it, so does rank of whatever kind produce habits which strengthen and support it. But the noticeable thing about these habits is that they are so different from what might have been expected. There are things which we might expect rank to produce, a commanding manner, we will say, a suggestion of reserve strength, leading to graciousness, and all the qualities of Aristotle's great minded man. But these enter little into class characteristics as we know them, and instead we find quite a different phenomenon, the peculiar æsthetic differences which I have been at pains to describe. It is as if a curiously ingenious weapon has been evolved by aristocratic instinct to defend its position. The power of status does not merely run along its direct and proper course, but with unconscious wisdom wanders off into the realm of the æsthetic, and founds a kingdom among obscure feelings and sensibilities with which at first it would seem to have nothing to do, and which are peculiarly powerful because so inaccessible. What is the explanation of this?

There is, we may be sure, only one thing which will explain the possession by a higher class of a higher standard. It can only come from a keener power of vision. It must be that one class sees things to which the other is blind. No one deliberately adopts a low æsthetic standard. No one will behave in a way repellent to himself, since to do so would lead to *self-disgust*. Everyone adopts the highest standard he knows, and if it is lower than some, that is because he is unconscious of a higher. Whatever stage we happen to be at appears to us the normal stage. The vulgar are not troubled by their own vulgarity.

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People are keenly alive to social differences beneath them, but only dimly aware of those above them, and it is only in proportion as we possess taste that we feel the need for it. If one group possesses a higher æsthetic standard than another, the reason can only be a greater sensitiveness, consciousness of outward status leads for some reason or other to a more highly developed power of perceiving subtle forms of ugliness. Why should this be so?

I conceive that it is due to the following principle: when a person is put on a pinnacle for any reason, small downfalls, though not necessarily connected with that reason, make him appear ridiculous. The reverence originally due to some special cause becomes indiscriminate, and spreads over all he does. Not only must he avoid what is obviously inconsistent with his position, such as meanness or weakness, but in addition to this, other things which were before permissible will now make him to be despised, and in particular the exhibition of what is intimate and private, or that which remotely suggests such exhibition. The distinction between what is dignified and undignified begins to emerge. A small boy is not ridiculous if he chases his hat, a bishop is. Similarly a slave is not contemptible if he displays vulgar spite (spite, that is, of such a kind as to involve an ugly self-disclosure), but a prince is. On the latter a fierce light beats, and in its rays he comes to learn distinctions unknown to the other who has had no such drilling. And so it comes to pass that the scrutiny of inferiors gradually produces a standard higher than their own. Without any vanity or attempt to play a part, the exterior of such a person will be affected by his position. This will operate not so much by the things he consciously cultivates as by those he avoids—avoids them because every time he falls into them he must pay the penalty of shame and discomfiture. Such an individual, and still more a group of such individuals, will become alive to the things which make a person admirable or contemptible. They will acquire a subtle instinct for perceiving what is beautiful or ugly in behaviour. They will recognize the ugly from afar and flee from it. The sensitiveness on which Ruskin lays stress is thus at the root of the matter, only it is not just a bare quality biologically acquired, but applies merely to certain definite things in life, and arises in a certain definite way. Thus a kind of science of the beautiful will gradually be built up, or rather discovered, since the beauty in question is no conventional thing, but has an absolute quality external to us, and is as much a matter for discovery as beauty in music or art. But this beauty, being a matter of lifelong education, becomes the secret of a class (at whatever point in the social scale), and when once acquired, confers an acknowledged superiority which holds its own. Thus the groups higher in an economic sense acquire merits which are other than economic. Owing to their intransferability these become per-

manent, and so a new importance becomes attached to class distinctions, justifying them in a way they were not justified before

Such is our attempted explanation, speculative enough no doubt, of this hitherto almost universal feature of human society. It is little more than guesswork, and it may well be that the whole phenomenon is too varied and complicated to be pressed within the limits of any such theory as this. What, however, I hope to have shown with some success is that when we speak, whether with satisfaction or disparagement, of social distinctions, when we speak of class consciousness, when we speak of higher and lower stocks, we should at least stop to think what we mean. And with regard to our outlook on the future I have perhaps done something to make clear, first that the ingrained habits we have been considering give to human society an inertia which the enthusiast for advance must always take into account, and, secondly, that a world which is rightly aiming at the abolition of poverty and the comparative levelling of incomes must on the face of it be one from which certain goods which we value intensely are bound to disappear. The situation is somewhat analogous to the prospect of the abolition of war, and the moral equivalent of war which William James desired to find. In each case our desire for change is tempered by misgivings. War will, we hope, become a thing of the past. Will martial virtues follow it? Aristocracy *may* become a thing of the past. Will the world continue to retain its virtues as a permanent possession, or will they become a dying tradition, or be irrevocably lost? Yet not irrevocably, perhaps, if their equivalent can be produced by a more widely spread humanistic education, or if a transformed society can be inspired by moral impulses which will build up some other noble tradition, different from the one we have known, but no less beautiful.

OUR PRESENT OUTLOOK IN SPECULATIVE PHILOSOPHY

PROFESSOR JOHN S. MACKENZIE

SPECULATIVE Philosophy, or Pure Metaphysic, stands at the present time in a very interesting position. There is perhaps some degree of slackening in the construction of elaborate systems, though, with the recent examples of McTaggart and Professor Alexander before us, this may be open to some question. But at least we probably realize, more fully than was possible in previous generations, the exact nature of the problems with which pure metaphysic is concerned. Its work has been more and more clearly marked off from that of the empirical sciences (including even the more detailed aspects of psychology), and from that of the mathematical sciences (including even the quasi-mathematical aspects of formal logic), and its province can now be definitely confined to the general theory of knowledge and the light that is thrown by this upon the structure of reality. It is my object in this paper to indicate briefly the chief problems that appear to fall within its scope and the chief directions in which we may look for light upon them. It is well to admit, however, that metaphysical problems are difficult, and that any statements that are made about them, unless expressed in language of a somewhat technical character, are very liable to be misunderstood. I must try to avoid both the Scylla of obscurity and the Charybdis of superficiality.

I. *The Distinction between Knowledge and Opinion*—It is still true that a good deal that is commonly reckoned as knowledge is of a somewhat tentative character. Even in the exact mathematical sciences some of the conceptions that are used, even by the most careful writers, are apt to be seriously misleading.¹ The exact interpretation of the mathematical conception of infinity, for example, can hardly be said to have been finally settled, though some writers of deservedly high reputation continue to use it with great confidence, as if its validity had never been called in question. The recent recognition that the spatio-temporal system has to be regarded as a limited whole has helped, no doubt, to confirm the force of the arguments that were previously urged against the validity of the assumption that any systematic whole can be treated as infinite in the sense in which that term is conveniently used for

¹ The statements about this, as well as on much else, in Mr. Johnson's *Logic* Part II, may be referred to with great advantage.

the more purely formal purposes of mathematical analysis Hegel, as is well known, had suggested formidable doubts with regard to the metaphysical application of this mathematical conception, and the most careful of recent logical writers such as Dr W E Johnson,¹ are not unaware of the caution with which this mathematical conception has to be employed. On the whole, there has also been, in recent years, a somewhat greater willingness to admit that most of the results of scientific investigation are subject to correction by a more searching analysis. On the other hand, the recognition of the need for such a searching analysis may make us more ready to see that some conceptions of a more purely speculative character may be more firmly grounded than anything that can be discovered by empirical observation or even by carefully conducted experimental methods.

2 *Systematic Unity as the Test of Truth*—The chief conclusion to which we are led by such reflections is that we cannot rely on the detailed investigation of any particular aspects of experience until they have been brought into definite relation to other aspects of the universe, so that they may be seen to fit into their places within a coherent whole. The consideration of this does not fall within the scope of any particular science, nor do logical criticisms suffice for this purpose. It is the proper province of speculative philosophy. Happily, this does not imply that any doubt need be thrown on the conclusions of the special sciences, so long as they confine themselves within the limits of their own particular provinces.

3 *Appearance and Reality*—Even the special sciences have learned to recognize, more and more fully, that what appear to be facts of experience cannot always be accepted at their face value. They may be only of the nature of Appearance, or, if the expression is to be preferred, they may have only a certain Degree of Reality. The exact meaning of this, however, cannot be fully discussed in such a general summary as the present. F H Bradley's statements may be referred to, though it must be admitted that even they are not altogether immune from criticism. More recently some of the difficulties in the interpretation of scientific results have been well brought out by Mr Eddington, Professor Wolf, and others in connection with the analysis of the atom.

4 *Universal and Particular*—We have also learned I think, as a result of recent inquiries, to have a clearer conception of the relations between the Universal and the Particular, which has enabled us to see that much that has been thought of as having universal validity is, in reality, only susceptible of a particular application. Space and Time may be referred to as being among

¹ In Part II of his *Logic*, pp 161 seq. He has not, however, referred definitely to Hegel's view.

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the most conspicuous instances of this. There was formerly a tendency to think of them as 'all-embracing' forms of reality, and they are still often thought of in this way. The criticisms of Kant did a good deal to throw doubt on this view of them and scientific inquiry has now made it easier for his criticisms to gain general recognition. Kant's criticisms tended to lead us to regard them as only phenomenal and some more recent philosophical writers¹ who are not specially adherents of the Kantian system have tended to speak of them as unreal. This may not be quite the right way of characterizing them but it is at least a step in the right direction to recognize that they may not be necessary aspects of everything that can properly be described as real.

5 *Necessity and Contingency*—We get a little further towards the understanding of the problems that have now been referred to by considering the distinction between what can rightly be characterized as necessary and what is properly to be regarded as only contingent. When we say that $2 + 2 = 4$ or that what is intrinsically best should always be chosen we are stating what, when rightly understood, is not open to question. If on the other hand we say that a stone, when unsupported, will fall to the ground or that it is wrong to take what is the property of another, we are making statements that, however true and even certain they may be, depend on the particular structure of our earth or the particular structure of our society, and that, consequently may be true only under these limitations. In general, whatever is strictly universal is also strictly necessary, whereas whatever is, in any degree, particular is also, to some extent, contingent. Even the general structure of the spatio-temporal system appears to fall under the latter description, since it might conceivably be different from what we find it to be. I think it is true to say that any existent universe can only be a specimen of a possible world. It cannot even be regarded, as the existent universe was by Leibniz, as the best that is possible. But on this I must not here enlarge.

6 *The Conception of a Cosmos*—Reflection on what has now been indicated leads us to recognize a distinction that is not always clearly present even to the minds of scientific thinkers—viz. that between what presents itself to us on the one hand as the universe of our experience, and, on the other hand, as a larger whole within

¹ The late Dr. McTaggart was perhaps the most conspicuous and the most distinguished example of this (especially in his book on *The Nature of Existence* vol. II).

² I have tried to deal with it more fully in the new edition of *Outlines of Metaphysics* and I am hoping to give some further consideration to it shortly. The problem of Contingency is probably the most difficult in the whole range of speculative philosophy.

which that system may be supposed to be contained. That larger whole may consist of a number of limited universes—as Professor Alexander, for instance, has suggested—or it may have to be thought of rather as something that is not properly to be regarded as spatio temporal at all. It may, for instance—I do not mean to imply that it is—be of the nature of mind rather than of a material system (however a material system is properly to be conceived). Such a conception of an extended Cosmos tends now to take the place of what Kant characterized as the “Thing in itself,” or what is otherwise referred to as the Noumenon (in distinction from the Phenomenon). The recognition of a distinction of this kind enables us to understand somewhat better the meaning of the antithesis between Appearance and Reality. It is essentially the distinction between what is partial and what is complete. What appears cannot be wholly unreal, but, when it is seen in its place within a more comprehensive system, it may be found that its first appearance was very misleading. It is, however, hardly less misleading to characterize it as unreal. It is an aspect of reality, though, taken by itself, it may be a very misleading aspect.

7 *The Idea of the Absolute*—The idea of the Absolute is very closely connected with that of the Cosmos but it tends to carry us beyond what has just been indicated. If we were right in suggesting that the spatio temporal system is to be regarded as contingent, it would seem to be true that the Cosmos within which it is contained must also be regarded as being at least partially contingent. Now, the Absolute is generally understood as meaning a Being that is not contingent. Hence it seems necessary to distinguish the Absolute from the Cosmos. When such a distinction is drawn, the conception of the Absolute tends to become identified with that of God, provided always that this term is not taken to mean one existent Being among others. According to Bradley, “a God who should be capable of existing would be no God at all.” If God is conceived, not as one Being among others but rather as the self-subsistent Source from which all existence flows, the term “Absolute” is perhaps a less ambiguous one to employ. The Cosmos might then be understood to mean either the whole of reality or, perhaps better, as all that can properly be said to exist, as distinguished from the self-subsistent Source. The particular existences may be said to be “unreal” in the sense that they do not possess self-subsistent reality, but without this understanding, it is certainly misleading to say that they are unreal.

8 *The Problem of Creation*—If we think of the Absolute in the way that has now been indicated, it has to be thought of as being, in some sense, creative. The exact meaning of this is, however, not easy to explain. The term “creation” is most readily understood

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with reference to the imaginative activity of a poet or artist who "gives to airy nothing a local habitation and a name." The material with which the artist works is, however, presupposed. He only brings about a fresh ordering of it. The "Divine Imagining"—to use Mr. Fawcett's phrase—must be supposed to be creative in a much fuller sense. How this creative activity works, is probably not capable of being made fully comprehensible to a finite mind. In the language of modern science, it seems to mean a certain emanation of "energy" but that—as scientific writers have at least begun to recognize—is little more than a word to cover our ignorance. It does not seem to be possible to do much more than enumerate and characterize the specific forms in which it is manifested, and to bring out certain relations between these forms.

9 *The Contribution of Hegel*—Hegel is the writer who appears to have contributed most to make the general idea of Creation clear. His *Logic* is described by him as containing the general conception of "God before the Creation of the World." This conception is arrived at by a dialectical exposition of the various attitudes of thought that are expressed by such terms as Being, Becoming, Essence, Substance, Cause, etc. They are all set aside as inadequate, with the exception of the idea of Creative Spirit, out of which the contingent particularity of Nature and Finite Spirit emerges.¹ There is, however, one important conception that does not appear to be sufficiently emphasized by Hegel, and for the treatment of which we have to turn to the much earlier work of Plato.

10 *The Contribution of Plato*—Plato's contribution is to be found mainly in the Dialogue called *Timæus*. Doubt has recently been expressed as to whether the views set forth in that Dialogue are properly to be ascribed to Plato.² That is not a question that can here be discussed, nor, indeed, am I qualified to discuss it. If the views are not Plato's, I think we must suppose that there was another philosopher, in some respects greater than Plato, of whom practically nothing is known. All that concerns us here is that a very interesting view of the creative process is set forth in that Dialogue. The general view that is expounded in it is that the creation of the finite world is to be ascribed to a Demiurge, guided by the idea of what is Good (*αὐτὸ ἀγαθόν*) and by the more comprehensive conception of the self-subsistent Life (*αὐτὸ ὁ ἔστι ζῶον*). Whether it is really necessary to postulate any Demiurge, other

¹ It must be admitted, I think, that the transition from the Absolute Idea to the contingency of Nature is not very clearly explained by Hegel. Nor is the precise sense in which creation is to be understood.

² Professor A. E. Taylor—undoubtedly a great authority—has expressed such doubts. But reference may be made to the criticism of his book by Professor G. C. Field in the January number of *Mind*.

than the Self subsistent Life—the Absolute—may be open to question, and, indeed, it is doubtful (as Archer-Hind urged long ago) whether Plato intended it to be so conceived, but that the end aimed at is the realization of intrinsic value certainly seems to be the only intelligible hypothesis

11 *Bearing of these Views on Modern Science*—In the light of modern science, many of the Platonic statements, and even of the Hegelian, would, no doubt, have to be expressed in somewhat different language. But the supreme Value or Good¹ may still be supposed to be the ultimate goal of the evolutionary process which, on this particular planet, culminates in the life of man—or possibly, as some suppose, in what may be characterized as a "Superman." The particular stages in that process have to be studied empirically, but there is no reason to suppose that the end that is ultimately aimed at is a purely contingent one. It may be definitely determined from the start.

12 *Their Bearing on Practical Life*—It is, of course, in the active life of human beings that the full significance of this general conception becomes most clearly apparent. It is there that the idea of Good is at last explicitly manifest as the guiding principle. It may be that Hegel did not adequately bring this out. In some respects it was more explicitly developed by Plato and by his disciple Aristotle. Aristotle appears to have adopted from Plato the view that Good means essentially that at which all things aim (*ὅν πάντ' ἐπιδίεται*), and this is now beginning to be more adequately recognized among ourselves. The end that is ultimately aimed at has been very instructively characterized by Professor Alexander as the realization of "Deity." The particular way in which this realization is described in *Space, Time and Deity* may no doubt be open to some question.² That is a subject that cannot be properly dealt with in such a sketch as the present. I may, however, venture to state in general terms that the goal that is ultimately aimed at would seem to be the realization of what is imperfectly realized in the development of human life. Whether this implies—as Dr McTaggart, for instance, conceived—some form of personal immortality, is too large a question to be here satisfactorily discussed. Probably it does. But at least the particular form that it may be expected to take is not easy to determine. It seems at least that it

¹ Professor W. M. Urban is I think the writer who has most satisfactorily brought out the significance of the idea of value for modern thought.

² The general significance of the term may be illustrated by the lines

"Winds blow and waters roll
Health to the brave and power and deity,
Yet in themselves are nothing."

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must involve a certain persistence of the temporal process, which is, consequently, not rightly to be characterized as unreal, however fully it may be determined throughout—a question on which I am inclined to agree with the view that was taken by McTaggart. Real sequence does not appear to be incompatible with determination.

This is necessarily a very imperfect sketch, but it may perhaps serve to indicate the main considerations by which our present outlook in speculative philosophy is affected. What has always to be borne in mind about speculative philosophy is that it is speculative. The views to which we are led are simply the views that appear to us to be most intelligible. Very little can be done in the way of testing them, in the sense in which scientific hypotheses can be tested. Their internal coherence is the only ground that we have for believing them to be true. In this sense, it may be admitted—as Bosanquet urged—that philosophy cannot hope to emulate the "sure march" of the sciences (especially of the mathematical sciences). But it is largely true of the more concrete sciences also that their hypotheses are constantly being set aside in favour of others that are more satisfactory. It is by no means certain, for instance, that the analysis of the atom has yet been completed, or that the factors in organic evolution have been finally determined. On the other hand, some hypotheses that may rightly be characterized as philosophical (such as that of personal immortality) appear to be capable of some degree of verification; and certainly the general hypothesis of ultimate coherence and intelligibility in the universe is one that is constantly receiving verification. Thus the contrast between the particular sciences and speculative philosophy is not one that can be quite sharply drawn. But this could only be made clear by a detailed consideration of the problems that can properly be characterized as speculative.

THE APPEAL TO COMMON SENSE

H H PRICE, MA BSc

I

WE must begin by asking, What exactly is common sense? No doubt the word was originally used as a translation of Aristotle's *κοινὴ αἰσθησις*, but that is not its modern meaning. When Reid or more recent philosophers speak of common sense, they clearly have something else in view. At the present day, it is perhaps most often used to mean a quality of a mind, as when we say that jurymen or Members of Parliament should be men of common sense, meaning that they should show intelligence in the ordinary affairs of life, or again, we say that a little common sense would enable us to solve this or that political problem. But we are not concerned with that meaning either, though it would be interesting to discuss it. Common sense, as we are concerned with it here, means rather a body of very general principles commonly accepted by ordinary non philosophical men in the ordinary affairs of life. These principles are really philosophical—that is to say, they belong to the proper subject matter of philosophy—but, of course, the plain man who accepts or applies them at every moment of his life is far from being aware of this. Some of them are metaphysical, or (if we prefer to say so) epistemological, others are ethical, and whether or not there can be a common sense theology, as a recent writer has asserted, it seems quite possible that there may be one or two among them which properly belong to the theologian's province. All these principles, taken together, make up what is usually called the common sense view of the world. But in this discussion we shall confine ourselves to the metaphysical or epistemological ones, which are more frequently appealed to than the others, and which, besides, seem to be more interesting. But our conclusions, if valid will apply to the others also.

Examples of such principles are. That there exist other minds than my own, that there is a physical world which exists, whether perceived or not, and is unaffected by changes in my sense organs, that (as Reid puts it) those things did really happen which I distinctly remember, that memory and perception differ from imagination not in degree, but in kind, that thinking makes us aware of real connections in things, and so on. These principles, according to the plain man's view of it, are not deduced from

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anything else, but are valid in their own right, at any rate, he never attempts to deduce them, and he always takes them for granted. Closely connected with them are certain concepts such as whole and part, substance and attribute, cause and effect, thing and its appearances, these are of the nature of categories though they do not all occur in the usual lists of the categories. It is obviously impossible that we should give a complete account of these principles and categories to do so would be to produce a whole system of metaphysics—which would be none the less a system because the metaphysics would be those of common sense. But I hope it will not be disputed that the examples just given do form part of what philosophers ordinarily call common sense, though they by no means exhaust it.

A difficulty at once arises. The common sense principles, we said, are *accepted* by the ordinary man. But are they really accepted by him? It is quite certain that he does not explicitly acknowledge them. No plain man has ever been heard to say that he believes in the existence of other minds than his own: no plain man has ever declared in the market place or the newspaper his belief in a physical world independent of his perceiving and unaffected by change in his sense-organs. He does not even say "These sense-data are all appearances of one thing, and those fall under the category of cause and effect," but only "There is a letter on the table," or "The cat has drunk up the milk."

Nor is it sufficient to say that the plain man *would* acknowledge these principles and categories to be valid if they were formulated for him. For only people with a fairly high degree of education could understand the formulation, a young child or a savage (to go no higher) could not grasp the meaning of such abstract terms as 'cause and effect,' 'substance,' 'physical,' or even 'perception.' Yet such persons are surely adherents of common sense if anybody is. It may be said that if we *deny* these principles or reject these categories, the ordinary man protests pretty vigorously and that this shows that he does acknowledge them, though he cannot formulate them for himself or even recognize them when formulated by somebody else. And this seems to be nearer the mark. But even then it is necessary that he should understand what we are denying. Dr. Johnson, perhaps, could understand Berkeley, but a savage or a child could not. In what sense, then, can we say that the savage or the child accepts or acknowledges the principles which we have mentioned? Unless they do accept them, the principles clearly cannot belong to common sense.

The same difficulty arises in another way. Not only is the plain

* When Dr. Johnson kicked the stone he was no longer a plain man: he had begun to philosophise.

man incapable of analysing and formulating the principles of common sense, which (as we claim) he applies every moment of his life, he is an exceedingly bad judge of such formulations when other people present them to him. Hence all sorts of strange opinions—as that all action is selfish, or that matter does not exist—have been put forward by philosophers in the name of common sense. And what is more, the ordinary plain man has often been persuaded to accept them (else where would those philosophers have got their disciples from?), not realizing that they were totally inconsistent with his everyday thoughts and actions. He is at the mercy of any skilful arguer, and is blown about by every wind of doctrine.

But there is no fatal difficulty here. There are plenty of cases where we can recognize a principle in particular instances without being able to formulate it, or even to understand another person's formulation of it. Thus all men can reason, but very few are logicians, most men can add, but very few can understand a mathematical book, or judge whether it is good or bad. The mental act by which we apprehend that "this case is an instance of a principle which is not confined to it, but has other instances also", is impossible without training. But it is only the first step, a further mental act is required to apprehend the principle itself. In regard to the principles of common sense, most people, at least, most educated people, can get as far as the first step, but very few reach the second. In other words, they are able to see that propositions like "the cat has drunk the milk" raise a philosophical problem, and involve a metaphysical principle, but they are unable to formulate that principle for themselves (since they cannot apprehend it *in abstracto*) or to judge whether any suggested formulation is right or wrong. And thus it happens that they are especially liable to be misled by bad philosophy.

We might have shortened this discussion by the aid of those useful words 'implicit' and 'explicit'. We might have said that certain general principles and certain categories are implicit in all the plain man's judgments though he does not explicitly formulate them. But unfortunately these words—especially the word 'implicit'—are very liable to confuse us. When someone says that X is implicit in A, we tend to think that he has explained what their relation is, whereas, in fact, he has only indicated that there is something *to be explained*. He has only told us that there is some relation between X and A, such that given A we can come to know X. But whether this relation is the relation of ground to consequence, of whole to part, of universal and its instance, of genus to species, of a law and its application—this still remains to be determined. And even then we still have to ask in which direction the relation holds: is it A that implies X, for example, or X that implies A? For in either case it might be said that X is implicit in A. For this

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reason, it seems better to avoid the words implicit and explicit, if we can, or at least, to use them only where we have already explained what special relation we mean. Thus, if we were to say that the principles and categories of common sense are implicit in all the plain man's judgments we should mean that in such judgments he claims to be apprehending (i) certain facts (for instance, that the cat has drunk the milk) which are really examples of those principles though he does not know that they are, and (ii) certain things and relations (the cat the milk, the relation of drinking) which, in fact, though he does not know it are instances of these categories. And we should have to add that he not only does not know this he is in very many cases quite incapable of knowing it which gives us still another sense of implicit besides those we have mentioned already.

But we have digressed too far from the main argument. We must now return to it, and at once we are confronted with another obvious difficulty. If the plain man is incapable of formulating the principles of common sense, or even of recognizing them when formulated, how shall we get to know them? Obviously, we shall have to discover them for ourselves by examining these particular applications, that is we must find out what particular facts, and what particular objects and relations, the plain man claims to be apprehending. There are several ways of doing this, like Socrates, we might ask the first non philosophical person we meet. But it would be necessary not merely to ask, but to cross-examine. An answer like 'I see a house' would not be enough, we should also have to inquire what sort of a thing our friend supposed a house to be. And without the use of leading questions, such as 'Does it exist when you are not looking at it?' we should not be able to make him comprehend what sort of an answer we wanted. Perhaps the answer could not be given at all except in language with which the plain man is unfamiliar, so that even if he knew what he wanted to say (and he would not, unless he were a person of unusual acumen), he would be quite incapable of saying it with any exactness. Or again we are quite likely to find that our new friend has just been converted to solipsism by reading an article on Relativity in the Sunday paper, and he may be so full of this that we cannot possibly convince him that his 'real' beliefs—those which he really accepts in all the affairs of everyday life—are quite inconsistent with it.

But there is another way open to us. However sophisticated we may be with the study of philosophy—however much afflicted with what Reid calls 'metaphysical lunacy'—we can always appeal, as it were, to the plain man within our own breast. We can slip back without difficulty into the common sense state of mind and of course, we constantly do so, even against our will. When we are in

that state of mind we make the same judgments as any ordinary non philosophical person would make if he were in our place, we claim to apprehend the same sort of facts and the same sort of things and relations as he does. We, too, judge that there is a letter on the table, not doubting (for the moment) that it was there before we looked at it, and that it came there by some process of physical causation. But when we begin to cross-examine ourselves—and we saw that this is necessary—difficulties at once arise. Do we, in our common sense frame of mind, believe that the envelope was white and the ink black before we looked at it, and after we have shut our eyes? Sometimes we *think that we do*, sometimes that we don't. Do we believe that the envelope is *one substance*, or several? Do we believe that we are *free* to take it up or to leave it? What do we mean by saying that it *has* square corners though they do not *look* so? The more we ask ourselves such questions the more muddled we become. On some occasions we give one answer, on some occasions quite another. It is possible for us to be plain men so long as we are eating our breakfast, or hastening to catch the train—though even then sporadic doubts and questions will sometimes break in. But as soon as we begin to cross-examine ourselves all our innocence departs from us, we can persuade ourselves that we believe the most curious things, and then again that we believe something quite different. And indeed it is quite obvious that if we are putting ourselves through a philosophical cross-examination, our own philosophical bias is certain to affect the result. This does not mean that the whole process is worthless: our bias may *affect* the results, but as we may see when we change from one bias to another, it does not *make* them. Thus self-examination may help us to discover the principles of common sense, only it is not sufficient by itself, as Reid sometimes seems to think it is.

There is, however, a third way. We can examine ordinary language. And this is what most philosophers actually do when they wish to know what the common sense view is on any point. It is held that language is (so to speak) a more incorruptible witness than either the plain man in the street or the plain man in ourselves—our own everyday consciousness. It will not be distorted by sophistical arguments, and *philosophical theories do not affect it much*, and if they do—as Locke and his followers brought the words “*idea*,” “*sensation*,” and “*impression*” into common use—the process is very slow, the philosophers responsible for it are sure to be well-known, so that the results can easily be discounted.

Nevertheless, ordinary language is not an infallible guide. We have all learned that the structure of statements often fails to correspond with the structure of judgments or propositions. One word does not always stand for one object of thought, several words may

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stand for one, or one for several. There is also the well known danger of hypostatizing abstractions, as it is called. We may to some extent avoid these difficulties by always taking words in their contexts, and by regarding the complete sentence as our unit. But that is only another way of saying that although language may give us the plain man's beliefs, it does not help us to *analyse* them; yet the analysis of them is what we want. Further, it is obvious that language by itself says nothing unless we already know directly what sort of facts and objects it is referring to. And if anyone were so much a philosopher that he could not put himself back into the plain man's state of mind, he would be incapable of knowing this, so that it would be quite in vain for him to examine ordinary language. Fortunately, the case is not at all likely to arise in this extreme form, no one can philosophise for more than a few hours at a time, and whether we like it or not, we find ourselves accepting the plain man's principles for a large part of our lives. But it does seem possible that the study of philosophy may make us incapable of appreciating *one or two* of the propositions and concepts expressed in ordinary language. For instance, a person who by long meditation had thoroughly thought himself into the point of view of psychological hedonism, might in time become incapable of understanding such a statement as 'I want my dinner', he might come to think that this really does mean "I desire the pleasure of eating"—though it palpably does not.

We can now see what advantages the examination of language has, as compared with other methods of discovering the principles of common sense. It does indeed, presuppose, as we have just seen, that we can put ourselves back into the mental attitude of the ordinary man. But still it is likely to yield more reliable results than the direct introspective, or 'reflective,' observation of that attitude. For whereas in introspection our own philosophical bias has more or less free play, it is continually being checked when we are examining language. The words or the statements as we come upon them and as we pass from one to another are continually pulling us up short as it were, and forcing us back into the plain man's attitude, we may leave it, but they never allow us to leave it for long. It is indeed necessary (to repeat it once more) that we should be capable of assuming that attitude—that, given a reminder, we can recall to ourselves the plain man's beliefs and put ourselves at his point of view. But the advantage of language is that the examination of it provides this reminder, which in mere introspection is lacking.

To examine ordinary language, then, seems, on the whole our best resort, if we wish to discover the principles of common sense. But we are likely enough to go wrong. In the first place, language only gives us the particular applications of them—the task of extracting

the principles out of their applications still remains, and it requires a peculiar kind of insight which we may not possess. Fortunately, a large part of the work has been done by the labours of many generations of philosophers. Such common-sense conceptions as substance, relation, mind, world, matter, cause, have long since been discovered and named. But in the first place, no one can yet give a perfectly clear account of them, and secondly, we have no guarantee that there are not others which are in fact presupposed in our everyday thinking, but have not yet been found and discussed by philosophers. Further, there are two questions about these concepts which have not always been kept distinct. It is one thing to ask what conception of substance or of causation is in fact presupposed in the plain man's everyday judgments, it is another to ask what conception of substance or causation is the true and valid one—or ought we, perhaps, to reject those categories altogether? And indeed, what we have called the *principles* of common sense (as opposed to the common sense categories) have not been so lucky. For although they have been investigated often enough—for they are the main topic of what is called the theory of knowledge—not all of them have received distinct names, and some have therefore sometimes been ignored, or mixed up with each other. Reid, indeed, attempted to give a list of them, but it may be doubted whether his list is adequate.

There is one further difficulty,—the plain man himself is not always consistent. The conception of 'a thing' will do as an example. What does the plain man mean by 'one thing'? To take the usual instance, does he regard the candle and the candlestick as one thing or two? And is the wick another? Is every thing divisible into smaller things, and if so, by what rule is the division determined? Is it a teleological rule? Is it one thing that which will perform one function? But then the question arises, What is one function? Perhaps we might find an answer to this, but we must then face the further difficulty that everything seems to have several functions. A book for instance, is for instruction, but I may also use it to prop another book up with, or again as a missile to throw at someone whom I dislike, or even as fuel. The common sense principles that there exists a physical world independent of my perceiving and unaffected by change in my sense-organs provides plenty of similar difficulties, so does the common sense distinction between 'images,' or 'illusions,' and 'real things.'

In those cases, and there are plenty of them, our business is *σώζειν τὰ φαινόμενα*, or rather *τὰ λεγόμενα*. In the politician's phrase, we have to "find a formula" which will cover all the plain man's statements. Until we have done this, we cannot claim to know what the common-sense principle or conception really is. And all

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this, of course, is only preliminary to the question, whether that principle or conception is *valid*.

Thus, in searching for the principles of common sense we need not merely the insight to see the category or the principle in its particular applications, we also need imagination, to devise hypotheses which will reconcile the apparently conflicting statements of the plain man, or at any rate excuse them.

Finally, there is one other danger of quite a different kind which we have to guard against. We have to remember that although the plain man's ordinary language and his everyday beliefs presuppose certain principles and categories which are philosophical, in the sense that they belong to the subject-matter of philosophy; yet the plain man himself is no philosopher, and has never heard of the theories which Reid and others attribute to him. The exhortation to return to common sense and ordinary natural language is one which cannot be obeyed. If we have once left it we cannot return to it. For a common sense conscious of its own presuppositions, though it may be excellent as philosophy, is no longer common sense at all. This is a melancholy reflection; but there is no escaping it.

This concludes the first stage of our argument. We have tried to say what common sense is—that it is a body of conceptions and principles accepted in ordinary life; to show exactly what 'accepted' here signifies; and, lastly, to explain what means are available for discovering those conceptions and principles. We can now see just what is being appealed to in the appeal to common sense; and it appears that common sense is not a very accessible arbitrator, and that its decisions (when we can get at them) may require a good deal of interpretation. Still, there is no doubt at all that views like sensationalism and many forms of idealism are clearly inconsistent with common sense; so is hedonism in ethics; and in theology or metaphysics, positivism and atheism. There is difficulty in discovering what the plain man does believe on these topics; but it is fairly easy to see what he does *not* believe.

It is therefore well worth inquiring what *authority* belongs to common sense—a question which hitherto we have carefully avoided. Are its principles true, and its categories valid, as those who appeal to it must think?

There are at least three obvious ways of answering this question.

First, it may be said that no authority whatever belongs to the plain man; his *ipse dixit* is no more to be accepted in philosophy than anyone else's. Indeed, philosophy has no concern at all with his beliefs or disbeliefs; the proper course is to ignore him altogether. Several plausible arguments may be brought forward in favour of this position.

1. In the first place, it will be urged, to appeal to common sense

is to appeal to the opinion of the ignorant. By a plain man, we mean *ex hypothesi* a person ignorant of philosophy. Why then suppose that he knows more about philosophy than anybody else? In the sciences such a view would be thought preposterous. When the physicist wishes to decide whether the mass of a body increases with its velocity he does not appeal to persons ignorant of physics. If the historian wishes to discover whether King Arthur ever existed, he does not go and consult the man in the street, nor does the philologist when he is searching for the derivation of a word. Indeed, it may be said, the thing is almost too obvious to be argued. No serious inquirer in any subject takes the least notice of the opinions of the market place, still less does he erect vulgar errors into infallible principles.

This argument, however, is not so strong as it seems, for philosophy is not one of the special sciences and what is proper in them need not be proper in it. Further, we have to remember that the special sciences, though they may reject the plain man's opinions on the particular details of nature or of history, by no means reject but assume without question the categories and the principles of common sense. If the belief in these principles be a vulgar error, all the sciences and history, too, have certainly fallen into it. They cannot, therefore, cast stones at philosophy. Nor is it even true that they wholly ignore the particular beliefs of the plain man, for they at least take the trouble to refute him first. And if philosophy is to ignore what we may call his general or philosophical assumptions, it, too, must refute him. To call him ignorant is, after all, to beg the question. Perhaps it is the philosophers who are ignorant, and the plain man who knows.

Moreover, as we have seen, it is really not quite fair to speak of the plain man's philosophical *beliefs* or *opinions*, we ought rather to call them his fundamental assumptions. They are surely different in kind from such opinions of the market place as that 'The sun goes round the earth' 'That dreams should be interpreted by their opposites,' 'That in the last days the Emperor Barbarossa will return to rule Germany.' The plain man can give up such opinions as those without any serious difficulty, and with the progress of knowledge he is constantly doing so. The surrender of them does not make it impossible for him to find his way about the world—that is, to understand it well enough for ordinary practical purposes. But if he gave up the assumption that other minds exist than his own, and that there are physical objects independent of his perception, if he came to disbelieve in all causal connection, and supposed, with some philosophers, that the real is just a flux or a chaos, then (in Berkeley's words) he would no more know how to conduct himself in the common affairs of life than an infant just

born Thus we may fairly claim that the principles and categories of common sense are at any rate no merely *casual* superstitions, unworthy of the consideration of enlightened persons Whether they are valid or not, they are at least fundamental to our ordinary view of the world, and therefore to the sciences They may break down under examination, but they are no mere opinions of the market-place

Another proof of this is that whereas superstitions and mere ignorant opinions vary from one country to another and from one age to the next, we do not find any such variations in the principles of common sense The Chinaman and the Eskimo believe in the independent existence of matter no less than the European, and Homer was no more a sensationalist or a subjective idealist than Dr Johnson Solipsism, indeed appears to be endemic in India, but if we apply Brin's test of belief, we may doubt whether even there it is really believed in by those who profess it

Thus there really is a *consensus gentium* in favour of the principles of common sense But we need not appeal to mere enumeration We can use a more fundamental argument If there were any nation which rejected them, we could certainly have no intercourse with it, for we could not possibly understand its language Indeed, it could not possibly have a language Even a language of gestures and cries presupposes the independent existence of matter and of other minds, to say nothing of the categories of substance and causality

Now, we do not contend that the argument from the *consensus gentium* proves very much We only wish to urge that assumptions which are made by everybody in all ages cannot be merely capricious or accidental They at least deserve the most serious attention, we cannot know them *de haut en bas*, as mere vulgar errors Indeed, we shall find it very difficult even to account for the existence of these assumptions, unless we allow that there is "something in them"

2 However, more serious arguments can easily be brought forward against the appeal to common sense It may be said, secondly, that the plain man is by no means the unbiassed witness which some philosophers have supposed him to be On the contrary, he has a very powerful bias—the practical bias—and this vitiates all his beliefs He is occupied in keeping himself alive, and it does not matter to him whether his beliefs are true or false, so long as they help him in the struggle for existence Indeed, it is urged by Bergson and his followers that some of the most important common-sense beliefs, for instance, the belief in separate things and in a measurable time, are false The real, it is said, is an indivisible flux, and the divisions which we seem to find in it are products of our imagination, or as Bergson strangely calls it, our intellect

3 Further, psychologists claim to be able to show how these beliefs arose in accordance with biological needs. Our belief in an external world, even our belief in an objective space, is not (we are told) original, but acquired, either in the process of evolution or of individual development. At first there was only the *big buzzing confusion* of sense data, and what we call common sense with its principles and its categories is somehow the product of this. If our bodies, and our biological needs, had been different, common sense would have been different too.

Whether these two contentions—that of the Bergsonians and that of the psychologists—can be expressed in a tenable form, without assuming the validity of the very principles they are attacking, it is difficult to say. As usually stated, they certainly fall into this fallacy. For to talk about animals, brains, sense-organs, instincts, or indeed about evolution, is to assume the existence of the common-sense world of separate physical objects causing changes in each other, independent of our perception and thought, and unaffected by the particular character of our senses. Certainly in an indivisible flux, whether of 'Life' or of sensations, there could be no animals nor brains nor struggle for existence, and though there might be an *élan vital*, there could not really be any life in the ordinary sense of the word.

Naturally, we do not dispose of either party in this way. They may be able to restate their arguments, for the facts upon which they rely do prove something. But it seems to me that at the most they could establish only two harmless consequences.

First, the Bergsonians may really be able to show that the plain man is *limited* by his practical interests: that there are certain characteristics of the real which these interests prevent him from attending to. Thus it is probably quite true that the plain man is more interested in the difference between one thing and another than in the connections between them. It is also probably true that he is more interested in the quantitative relations between one period of time and another than in the actual lapse of time itself. But this is only ignorance or limitation, it is not error or illusion. Things really are separate one from another, though they are also connected, and time really can be measured, though it also flows. Finally, it is possible that there really is another way of apprehending the real besides ordinary perception and intelligence. There may, for all we can tell, be experiences in which, so to speak, we are united with the real instead of viewing it 'from the outside.' But this does not prove that perception and thought are erroneous or illusory. It proves simply that they may not be the only ways in which we can be related to the Real. And if the argument attempts to do more than this—to show that the world of our ordinary consciousness is a mere

fabrication or construct or fiction—it contradicts itself at once, as we have seen

The psychologists, on the other hand, may conceivably be able to show that there was a time when we or our ancestors did not believe in an objective physical world, and were ignorant of such categories as substance, cause, thing and appearances. But the fact that this belief has grown up by degrees (whether in the individual's life-time or in the history of the race) has not the slightest bearing on the question, whether it is true or false. It certainly does not follow that because our belief in the physical world has developed by degrees out of belief in something else—therefore the physical world itself has grown up out of something else—say sensations and kinæsthetic feelings. On the contrary, the obvious explanation is that the physical world existed all along, but that the mental state or attitude which is required for the apprehension of it is not possible to a *pithecanthropos* or a new-born infant, and has to develop by degrees. This is the very most that the genetic argument can prove, and one may doubt whether it proves even as much as this.

These two lines of argument, the Bergsonian and the genetic, may serve as types of all those which attempt to discredit common sense on the ground that it has to do not with the real, but with fictions or constructs. It would take too long to examine them all in detail, but so far as they *are* arguments, and not mere assertions, we venture to suggest that they all either assume at some point or other the validity of the principles they are attacking, or else they prove something quite different.

• I strongly suspect that in fact they cannot do this

(*To be continued*)

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THE METAPHYSICS OF PLATO

PROFESSOR T E JESSOP

IF we need a figure to indicate the way in which the influence of Plato has passed through Europe, we must liken it, not to a river continually at the flood, but to an expanding atmosphere enveloping and pervading whatever it meets, an atmosphere with a perfume that has made some sick and others open their nostrils to take in the seed and substance of a new life. A river makes a linear path which, except perhaps for a few sinuosities and an occasional overflow, can be traced with relative ease, but an atmosphere, enlarging itself in all dimensions, with attenuation here and condensation there and precise limits nowhere, offers neither clue nor pattern for the inquisitive historian who would seek to plot its course. We may be prepared to find it anywhere. So it is with the metaphysics of Plato. No sphere of learning or of art has kept beyond its reach. Anyone who, by comprehending its particular incidence and its total range, would write the most remarkable single chapter in the history of thought, would have to search the mounds not merely of philosophers but also of saints, scientists, poets, painters, sculptors, statesmen and educationists of all ages. He would even have to search for the breath of it among the innumerable works of fiction that tumble mechanically from our modern indiscriminating presses. The following, for example, is pure Platonism. "We come from a world where we have known incredible standards of excellence, and we dimly remember beauties which we have not seized again and we go back to that world. Uncle Pio and Camila Perichole were tormenting themselves in an effort to establish in Peru the standards of the theatre in some heaven whither Calderon had preceded them." To understand, alike in its emotional beauty and in its scientific severity, the metaphysic that underlies such charming phrases is perhaps an obligation, almost a necessity, and certainly a privilege.

The Platonic metaphysic, the so-called theory of Ideas or Forms, reduced to the central and constant contentions that stand beneath its changing expressions, maintains that the mind's demand for truth and reality can be satisfied only by a perfectly organized system of perfect, eternal, and unchanging objects, that these objects—ideals, the highest we can think in any sphere of con-

templation—though never in this life seen embodied but only approximated to, are real, are indeed alone real in any tolerable sense of the term, and that the things that flit across the screen of sense are but troubled images or reflections of them. The seen is not the prior, it is only the distant shadow of the unseen. In consequence human life, ideally regarded, is an agony of reason to break away from the body by which it is bound and to contemplate with complete insight, with exquisite æsthetic enjoyment and with morally fruitful reverence the supersensible realm of incorruptible realities. This is the Platonism that has given the pulse and warmth of life to philosophy, softened the angularities of Christian theology, and unveiled to many a poet the vivid vision that compelled him to self-expression. In the end it is itself a poem—an ordered dream rather than a logical system—an ideal with the breath of life within it rather than an anatomized body of stark knowledge. Expressed by Plato with a supreme command of that Greek language which had words for what we have to indicate by means of a glance, a shrug, a nod, a raising of the eyebrows, at its highest reach it forsakes the speech of argument to find a fuller utterance in myth. Hard though it be to say so, it is just because of this substitution of artistry for logic, this swooning of reason into imagination, at the critical points that Plato falls short of being the complete philosopher.

And yet, if we were to smile at his fancies, Plato would smile with us, for whenever the poet in him subdues him as a thinker he gives us warning, and this candour, this perfection of self-criticism, disarms us. Moreover, many poems proceed out of what Rossetti called "fundamental brainwork" not all lovely things are fragile, falling at a touch, and those that are, like crystal fragments make music as they fall. Behind Plato's imaginings, as their source and partial vindication, there is a mass of "fundamental brainwork," as every patient student of his works knows. Plato the thinker is always at the heels of Plato the poet, or, if you will, however high his kite may soar, the thinker in him holds it fast and shortly draws it in. His wildest myths are significant, born of deep problems and premonitory of deep solutions, and all of them are only occasional interruptions, momentary upward glances amid mazes of swift and subtle reasonings. Plato's chief exercise remained among the severities of thought practised by his master Socrates.

It is from Socrates' view of the nature of knowledge that Plato's metaphysics seems to have started. No one before Socrates had clearly grasped the fact that we know every object through ideas that apply to many other objects as well. mere apprehension by sense is nothing until there has supervened the reference of the given particular to a class. When I say that the thing before me is a desk, that a desk is a piece of furniture intended to accommodate a

person while he is reading or writing, that this desk is oak, light fawn in colour, and so on, I am throughout using words and corresponding ideas that refer to numerous things besides this desk. In so doing I am in effect asserting that the desk is like these other things in the respects connoted by those general descriptive terms, and the assertion is, of course, right only if it really is like them. What Socrates did was to elicit the axiom that different things can rightly bear the same predicate only in so far as they show amid their diversity the one feature that the common predicate designates, and thereby to suggest the theory that knowledge must consist in noting the resemblances or common properties of things or, to use a now threadbare phrase, in the discovery of identity amid diversity. There is, however, a further point. To know anything it is not sufficient, or even necessary, to run through all its similarities to other things, to accumulate the many predicates it can rightly receive. The knowledge that Socrates was seeking includes also a certain order, a proportioned emphasis, an elevation of some predicates as important and a subordination of the remainder as relatively unimportant. Not all the similarities of a thing to other things are relevant to the understanding of it, but only those similarities that can be completely, or at least closely and constantly, paralleled in other things. To take an extreme example: some men, we say, are as thin as a lamp post or as fat as a pig; but these resemblances do not help us to understand what it is that makes them men: only closer resemblances, those that become evident when we compare them with other men, are here of use. To know anything, in Socrates' strict sense of the term "know," is to have before the mind a clear idea of the qualities that constitute its deepest character. In all things there are some properties that are essential and some that are not essential, and it is the former that knowledge primarily requires. Now to state concisely the essential properties of a thing is to define it. In accurate definition knowledge achieves its ideal, a precise grasp of the meanings that terms can consistently bear is the indispensable condition of rightly applying them. Socrates' contribution to philosophy—and equally to science—was the discovery of the presence in all knowledge of general ideas, and the further discovery of the paramount importance of defining them, and by his own insistent call for definition in the sphere of moral judgments, where terms were and still are conspicuously ambiguous, he laid the foundations of ethics.

The Platonic theory of Forms is an attempt to find, with the aid of other influences, a metaphysical ground for the Socratic doctrine of definition, that is, to discover what reality must be if knowledge consists in the understanding of things by means of distinctly defined general conceptions.

A defined concept is unvarying; the mind can recur to it at any time and always finds it wearing the same features. In this respect it differs from anything we encounter through the senses. A rose may be red in the morning and change under the day's heat to a sickly brown, and a man may be healthy one day and ill the next, but redness and brownness, health and disease, considered not in their particular manifestations but in their own abstract nature, not as perceived by the senses or figured in the imagination, but as objects of thought, are free from such mutation. I can say that the sky was red yesterday evening, is red this evening, may be red to-morrow evening that some roses and noses some dresses and tresses as well as skies are red, and in every case, if the judgment is significant at all, the concept introduced by the term "red" remains identical, whatever be the nature, location, and time of the thing of which it is asserted. Sensible things, then, are changeful, receiving now one concept and now another incompatible with the last, whereas concepts abide immutably. Without fixed conceptual elements knowledge would be meaningless as well as useless, useless because meaningless, indeed, there would be no knowledge, but simply a stream of unidentified and unidentifiable sensations.

This fundamental difference detected by Socrates between the objects of sense and the objects of thought was brought to the fore and vehemently sharpened by Plato. But in making it emphatically explicit Plato did not confine himself to a pure deduction of what was latent in the Socratic insight, he laid other teachers under contribution, and it was through supporting suggestions derived from them, subjected of course to the idiosyncrasies of his own genius, that he passed from the recognition of the place of concepts in knowledge to the doctrine that conceptual objects are the very constituents of the real order.

On the nature of sensible things he had already been instructed before he came under the influence of Socrates. So far as we know, his first teacher in philosophy was Cratylus, an extreme Heraclitean, and from him he seems to have imbibed the doctrine that sensible things are radically mutable and fugitive (which is a doctrine, not a description, for what the senses testify to is stability as well as instability, to them the hills show no change). Anyhow, this doctrine runs through Plato from beginning to end, for the most part dogmatically asserted or even only assumed, and without it the theory of Forms would have no excuse for itself. When, with that conviction apparently already fixed in his mind, he came through Socrates to see that knowledge requires for its very possibility permanent objects of thought, he was naturally obliged to conclude that such objects constitute a world apart. Thus for Plato there were henceforward two distinct realms, the one for ever hurrying

elusively across the senses, the other standing clear and constant before thought, and that the latter must be real and the former, being its opposite, unreal was, it seems, simply involved in that conclusion, since Plato, like many philosophers (conspicuously Hegel), and unlike many others (conspicuously Kant), could not doubt that reality is what is defined by and enshrined in the indispensables of clear and consistent thinking

It is probable that in reaching this position Plato was also guided, or at any rate felt himself to be confirmed, by the Eleatic tradition. The basic tenet of Eleaticism—namely, that reality is only what the mind can make perfectly clear to itself, that change, coming into being and passing away, are thoroughly unintelligible, that in consequence reality is marked by eternal changelessness—coincides so closely with that aspect of the theory of Forms just indicated as to make it almost certainly one of the influences that shaped Plato's thought, and we have other evidence in the same direction. Without prejudice to this direct influence, however, it should be noted that when both theories are taken in their entirety the coincidence has to be viewed as a convergence of different lines of approach although for both whatever changes cannot be known and whatever cannot be known cannot be real, Parmenides utters this as an axiom, whereas Plato grounds it on Socrates' discovery of the conceptual character of knowledge

There was another line of influence besides the Socratic and the Eleatic, namely, the study of mathematics. Since this science was almost the creation of the Pythagoreans, and since Plato's thought is deeply furrowed by other lines of Pythagoreanism, it is natural to suppose that his mathematical bias was connected with that source. The strength of this bias should neither be underestimated nor wondered at, seeing that mathematics was the only science that had then reached a developed stage. In the first place, mathematics supplied him, as it supplied Descartes, and as it still supplies Russell and very many scientists, with his ideal of knowledge. A clarity equally perfect and a certitude equally irresistible must, he felt, belong to anything that can properly be called knowledge. This high but narrow ideal has also to be invoked to account for his expelling beyond the pale of science everything that cannot be apprehended in a context of transparent and constant relationships, which for him meant the entire realm of sensible phenomena. To this overzealous contraction of all science to the strait type of mathematics—a fanaticism to which some of Plato's immediate followers remained loyal—Aristotle replied by brooding preferentially over the outlawed limbo of sense, and though he did not in retort explicitly outlaw mathematics, he stolidly neglected it, an attitude which in his case amounted to a ban, for it was the only sphere of study that

he ever did neglect. In the second place, mathematics gave to Plato objects that were like the objects of his other favourite study, ethics, namely, objects that are supersensible and perfect. The proper concern of geometry, for example, is not with the diagrams it uses, since its definitions, axioms, and postulates are never more than approximately illustrated by them. No one can ever draw or find in any sensible thing a perfect circle. And yet what geometry says about circles is not only not meaningless but also transparently true, there must therefore be circles to which it applies. Hence there must be an order of being different from the realm of sense, and it is with this order that all science inspired by the mathematical ideal will be concerned. By this line of influence too then Plato finds himself brought to the necessity of placing over against the world of sense a non-sensuous sphere of objects and of according to the latter an exclusive certainty and thereby an exclusive reality.

Lastly, we must take account of Plato's ethical interest. While his passion for logical clarity impelled him to define moral distinctions, his austere moral fervour compelled him to pronounce them absolute, and he adopted a similar attitude towards æsthetic distinctions. Precisely because uprightness ('justice' is the misleading etymological equivalent, not the translation, of Plato's term, and survives only by inertia) and beauty are standards by which we assign values to acts and things it seemed to him that they must be real. A good act is one that conforms to a good type, and a beautiful thing one that bears comparison with a model of beauty, the type or model is already supposed as distinct and prior, the distinctness being proved by the fact that no moral or æsthetic ideal, as before no geometrical figure, is ever seen completely embodied in this world. They are real, then, because every moral and æsthetic evaluation presupposes them, and also because the very end of life is to strive after them, and yet we never see them never meet them within the boundaries of our sensuous world. Yet again Plato feels obliged to believe in a supersensible order which disgraces the sensible by its constancy and perfection.

To summarize, the theory of Forms, like a fabric, is not woven of a single thread. In general, each Form must be regarded as having several aspects. (1) Logically, it is a universal, the connotation the unitary meaning of a general term, in sharp distinction from the particulars which comprise the denotation. The application to many things of one name or one predicate implies a constant, and the comprehension of particular things is achieved by analysing their diversity into peculiar organizations of such constants. And because the Form is a constant it is the object not of sense but of thought, with neither spatial nor temporal location. (2) Ethically and æsthetically, a Form is the perfect in its kind, not merely a universal

but also an ideal—in contemplation a norm by which we assess the value of actions and things, in moral conduct and artistic production an end that we strive, though never with complete success, to realize. Plato calls it a *παράδειγμα* (exemplar) as well as an *ἰδέα* (Form), and of all his interests this teleological one is the strongest, being allowed to determine the character of the supreme Form, which Plato affirms to be the Good, the ultimate ideal, not, as it would be if the logical interest predominated, the last product of conceptual abstraction. Plato does not find this aspect of perfection in ethical and æsthetic universals alone. Not only are actions called just by reference to an ideal justice, but also horses are called horses by reference to an ideal horseness. The connotation of a class term differs from the particulars denoted by the term not only by being unitary but further by comprising merely the pure and flawless characteristics of the class. For example, Plato would have defined a horse as an animal of a certain appearance which by its fleetness, strength, and spirit is specially suited to serve man in war. A thing is properly what it is fitted for, what it would be if there were no crass impediments in the path of its development. (3) Metaphysically, the Form is more than a concept, and more even than an ideal, more, that is to say, than an object framed under inquiry or projected in aspiration, it is the very stuff and the sole stuff of reality. That in which alone thought can rest, which indeed alone makes thought possible, and which is as indispensable for the guidance both of conduct and of artistic effort as it is for the passing of appraising judgments upon them: whatever has these final characters must, Plato assumed, be unimpeachably real, and it seemed to him to follow that whatever is without them must be unreal. The theory of Forms in its general intention and result identifies the ideal with the real, it is the doctrine that the ground of values and the ground of natural fact are the same. This latter way of describing it brings out one of the chief of those features that have given it favour in the eyes of Christian theists.

It seems to me self-evident that in any interpretation of the Platonic theory that seeks to be discerning and adequate all these three aspects must be retained. Acute difficulties result, but to avoid these by the simple expedient of dropping one or other of them is not to expound Plato, but to criticize him, not to elicit the versatile personality that our texts reveal but to remould it nearer to the logician's desire, here, as everywhere else, philosophical systematics and the history of philosophy are honourable only in separation. For Plato truth, goodness, and beauty constitute an ultimate indissoluble concretion. Consequently, in his works philosophy is not a group of disciplines but just a single discipline, as kaleidoscopic as shot silk and, again like silk, one seamless texture, and it is this

holding together of vast variety in a sympathetic unity—which is simply the loyalty of Platonism to its own primary demand, the demand that philosophy shall be pre-eminently a synopsis—that is the deepest secret of Plato's age-long spell

The unification, however, is a personal one the heterogeneous elements are not linked together on the level of thought but melted together in the crucible of Plato's ardent soul In other words, the relation of the many Forms, or of the several indicated aspects of the Forms, to one another is left a matter of mere assertion Further, the metaphysical relation of the Forms to sensible things is left exceedingly vague We know what is meant when it is affirmed that they are related as universal and particular or as model and copy, but these relations seem to be severed when the ones are declared to be real and the others to be unreal These relations are relations within the total sphere of reality, and the unreal is precisely that to which real relations do not apply, or at any rate that which is related to the real in nothing but a negative way (whatever 'real' may mean) Here are two standing problems with which every critical student of Plato perplexes himself, and with reference to which the various schools of interpreters define themselves I shall expand the latter first, and with this reservation concerning both, that I shall completely ignore the "dialectical" dialogues (the "Parmenides" group), since about the purport of these there is virtually no agreement

The most striking feature of Plato's theory, the feature that has in some people excited the greatest enthusiasm and in others, notably Aristotle, the strongest criticism, is his emphasis on the transcendence of the Forms His location of them in the *Phaedrus* (247 C) in "a place above the heavens" is a poetical statement of what is insisted on again and again in many passages in stark prose The reasons for this insistence have been already brought out. logical universals, geometrical figures, and ethical and æsthetic ideals, though clearly and convincingly apprehended by the mind, are never to be found embodied in the sensible sphere Their transcendent character, thus discovered by thought is fixed and solemnized with the pomp of art, there are passages where Plato's discourse, under the stress of intense feeling, swells from smooth argument into tumultuous myth And here also there are more springs than one Plato, like all men, had his moods, and not merely the two moods of the thinker and the poet—even his poetic mood varied In the *Symposium* and the *Phaedrus* it seems to be the pure artist that fashions the picture the Forms are delineated as the sheerly beautiful, and heavenly for that reason, exciting the soul's unmeasured but purely spiritual, mystical love In the *Phædo* on the other hand, the ascetic controls the artist Plato recedes from the

body and its sensible environment as from something irredeemably unclean, and aspires after the Forms as celestial types and sources of unsullied moral purity, making, indeed, a religion of them. Reason and sense, goodness and badness, beauty and ugliness are distinctions evident enough on the theoretical plane, but in these myths they are powerfully re-expressed as antitheses between reason and appetite, between the lovable and the unlovable, between the holy and the unholy—oppositions that reflect not so much distinctions of thought as rending conflicts in the heart. Plato consecrates his other-worldliness with a religious seal.

It cannot be said that Plato always keeps loyal to the implications of this severe transcendence. Superbly a Greek, he responded spontaneously to the actual beauty of painting and statuary and the human figure, the disparagement of sensuous loveliness that his *Phædo* mood voiced did not in any perceptible degree affect that natural Hellenic susceptibility. And, amid the generally uncompromising idealism of the political theory of the *Republic*, uncompromising because it is a practical application of his transcendentalizing temper, he prescribed for the body, not the horrified mortification preached in the *Phædo*, but the strengthening, tranquillizing, and beautifying discipline of sensitively measured gymnastics. Here again Plato could not suppress the Greek in him, or the poet in him. For the poet's genius has a love of sense as part of its essence, he is one who thinks, feels, and writes in images, one who has dissolved the difference between thought and sense, charging each with the full virtues of both. Plato's nature was most richly sensuous. Handsome Athens and her handsome citizens live still in his pages. So much did his soul reside in his eyes that he called even the invisible Forms by a name derived from the verb 'to see,' and presented them repeatedly under visual figures. Perhaps it was because his sensibility was so luxurious, so opulent, that from time to time he reared and stiffened against it the strains he had of Spartan and Pythagorean asceticism. But even his asceticism had a root in the love of beauty, for it was in part an overeagerness to rise to the discarnate life in which alone, he believed, the perfect Forms could be perfectly beheld and perfectly enjoyed. Not in his myths only, but in many a casual phrase he reveals a sentiment that finds its choicest formulation in the words of Sir Thomas Browne: "Were the happiness of the next world as closely apprehended as the felicities of this, it were a martyrdom to live."

Had Plato done nothing more than hold the Forms far away, at the very limits of his imagination, from sensible things, his philosophy would have ended in a tissue of superfine abstractions, as tenuous and lightly based, albeit as lovely, as a web of gossamer. But he sought concreteness, differently indeed from Aristotle, but

no less earnestly, he intended even the remotest Forms to be explanatory of the sensible order, to account for this near world that first evoked the suggestion of them. The Forms, he said repeatedly, are not only realities—they are the realities of terrestrial things. A man is a man entirely in virtue of the Form of manhood, and a statue is beautiful entirely in virtue of the Form of Beauty. And yet every Form is removed by the furthest diameter of thought—as the real from the unreal—from the sensible particulars of which it is the explanation, the ground, the reality. This is the aching paradox of Plato's metaphysics. A thing's reality lies outside of it. Plato was aware of the paradox and strove hard to remove it, to relate the thing intelligibly to its Form, but in all his efforts he only magnified the paradox, insisting in the same breath that sensible things and Forms are together and apart, alien and akin. He beat the wings of metaphor and sang the appealing song of the *Timaeus*, but the bars of reason held inexorably against him. Whenever the opposites approach each other, they rebound under his passionate reaffirmation of their opposition. We read that the beauty of a beautiful thing is due to the relation of the thing to the Form of beauty, but we read also that there is only one beauty, this Form of beauty, and that this Form is as distinct from beautiful things as the real is from the unreal. If this be pressed, it means that things cannot be beautiful at all. Similarly, and still more patently, a man cannot be a man if his manhood is not his very self, but is a spaceless, timeless, unchanging Form, remote from his body, and only the object instead of the essence of his mind. Aristotle's sober correction of the paradox was surely inevitable: every individual of a class of things has its own Form, all of which are identical only in intellectual formulation, in definition, each being resident in and constitutive of the individual thing, and an abstraction, an unreality, apart from it.

Setting aside this difficulty, can we discover how, when Plato was affirming that Forms and ordinary things are related, he conceived the relation? As universal to particular and as perfect to imperfect, as we have seen, but—in repeat—neither of these two relations is sufficiently intimate or concrete. What we seek is their metaphysical relation, the bond that connects them not in thought but in very fact, the bond that makes the one the *determinant* of the other. Plato leaves us in doubt, it seems as though he himself never found it. At any rate, if he did he never crystallized it in a definitive phrase. He throws out hints: of the Forms he says that they are present in (ἰστέοντι) have possession of (κατέχει), are the patterns (παδείγματα) of sensible things, and of these latter that they receive (δεχέσθαι), participate in (μετέχει), are in close association with (κοινωνεῖ) copy (μίμησις) are the likenesses (ὁμοιώματα), images (εἰκόνες, εἰδωλα) of the Forms. The greatest

refinements of scholarship have been lavished on these terms, but to find among them any difference of meaning appears to me increasingly to be a pedantic mistake, another expression of that bias of erudition which would resolve literary interpretation into philology. There are passages in which several of them occur in quick succession, clearly intended synonymously. And it appears to me to be equally a mistake to accept any of them too seriously, each of them means 'this or something of the sort.' In one passage at least Plato virtually says so. "Nothing makes a thing beautiful except either the presence of or association with Beauty itself, in whatever way this presence or association may come about—for how it comes about I cannot yet affirm, but only that it is through Beauty that beautiful things become beautiful." His concern here, but not by any means here alone, is primarily to secure recognition that there are Forms. The elucidation of the metaphysical link between them—identity or continuity of stuff, or kind of influence, or whatever else might make the one responsible for the other—is nowhere argumentatively achieved. If we are to judge Plato by his latest thought, as expressed in the *Timæus*,² we must say that he did not go beyond the metaphor of imitation (*μίμησις*) a metaphor because it is an artistic element in the astonishing myth that the *Timæus* unfolds and unfolds with the explicit warning that it is a myth, or more strictly, a 'probable story.' It has, indeed, a serious purport meaning that the relation of sensibles to Forms is teleological: the first aim at, strive after the second. But this is still metaphorical. Moreover, it is asserted, not argued.

About the other standing problem we are equally unenlightened. The only place in the dialogues (with the possible exception of the dialectical group) where the question comes explicitly under discussion is in the sixth book of the *Republic*, in the section dealing with the higher education of the future Guardians, and even there we are given only hints. The Forms are said to constitute a system 'They neither wrong nor are wronged by each other, but are all obedient to order and in harmony with reason' (500 C). But what

* Οὐκ ἄλλο τι ποιεῖ αὐτὸ καλὸν ἢ ἡ ἰκείνου τοῦ καλοῦ εἴτε παρουσία εἴτε κοινωνία εἴτε ὅρη δὴ καὶ ὅπως προσγενομένη οὐ γὰρ ἐστὶ τοῦτο δις χιρῖζομαι, ἀλλ' ὅτι τοῖς καλῶ πάντα τὰ καλὰ γίγνεται καλὰ. *Phædo* 100 D. The difficulty of the third εἴτε (which following good example I have omitted in the translation) and the supposed difficulty of προσγενομένη (that it should be neuter genitive in agreement with καλοῦ or that we should correct to προσαγορευομένη) do not affect the point. Plato is confessing uncertainty about the way in which Form and thing are connected.

² The theory that the Forms are numbers which Aristotle attributes to Plato was apparently the final stage, but we know next to nothing about it, and that little is singularly obscure both in itself and in its bearing on the above question.

kind of system? Plato's conception of dialectic, explained in this same section as the ascent by pure thinking from principles commonly assumed as primary—from what he rightly calls hypotheses (e.g. the axioms of geometry)—to a single ultimate principle, and then the descent from this, again by sheer thinking, in a way that reveals those hypotheses as derivatives of the supreme principle: this conception of dialectic suggests that the Forms are ranged in a logical hierarchy, as indeed we should expect them to be when we view them, as Plato often viewed them, as universals. That is, we should have a system consisting of many species subsumed under a smaller number of proximate genera, which in turn are subsumed under still fewer genera, and so on, until the progressive subsumption comes to a stop in one all-comprehending genus, which would be a category something like Being.

This expectation, however, is not realized. Instead, Plato places at the head of the hierarchy the Form of the Good. Of the remaining order of the hierarchy, of the ranging of the levels and what each level contains, he says never a word. It is utterly impossible for us to reconstruct even vaguely the system of the Forms, and Plato's recourse to the simile of the sun in his attempt to indicate the nature of the organizing Form of the Good suggests that he himself had not worked it out: if he ever did so, it was not until his old age, when he completely disconcerts us by identifying the Forms with numbers. This inability to present us with even an outline scheme of the Forms is a somewhat ironical feature of Plato's thinking. According to him the Forms are the only objects that can be known in the severest sense of this word; they are the only objects that are worth knowing; and they are in principle capable of being perfectly known: and yet he never displays them systematically, never even enumerates them at any length, and rarely leaves us with a personal definition of any of them singly. Indeed, his confession that of the Form of the Good—without a knowledge of which, he says (505 A), none of the other Forms can be fully known—he can speak only in a figure (506 E), is an admission that he is in a quandary. Only a figure is possible because it is the condition both of being and knowing. Obviously, anything so transcendent must require in the final approach to it a mystical attitude, and when at length beheld will be an inexpressible, incommunicable vision. That Plato himself held to this consequence is clear: he asserts it modestly in the *Timaeus* (28 C), and strenuously emphasizes it in the seventh epistle (341 C), and we are virtually invited to justify by it his frequent recourse to simile and myth. It is one of the authentically Platonic elements of Neoplatonism.

Plato's difficulty is plainly due to the complexity of his conception of what a Form is. It is hard to see how logical universals, mathe-

mathematical entities, and values like goodness and beauty can be knit together in a system on any one principle, unless it be the logical principle, for the last two classes do after all, in so far as they are general terms, fall under the first. But Plato rightly refrained from resorting to this simple logical unification, since to treat values merely as universals and not also as ideals would be a most stupid abstraction. On the other hand, he could not reasonably regard all universals as ideals. evil for example, is a universal just as much as goodness is, and so are relations like tallness and smallness, which he expressly admits as Forms. The Forms remain an aggregate because they are not defined in a single way. The assertion that they are all unifiable under the one Form of the Good, are special determinations of it, is a postulate. In the *Republic* it emerges with an apology and with nothing but a simile to support it, and in the *Timæus* the region it dominates is one of picturesque adumbration, not of reasoned statement.

In truth Plato's belief in the absolute supremacy of the Good is not arrived at through nor required by his theory of Forms. It is not the conclusion of an argument, but a passionate conviction of his deeply moral spirit. It does not spring from the theory of Forms, the theory of Forms springs in part from it, and would have expressed it more clearly had it not been complicated by springing also from his almost equally passionate logical or strictly theoretical interest—the passion for truth as such in clear apprehension and articulate formulation—which Plato was never able, even in his most artistic and religious moods, for long to suppress. It is the belief that the abiding supports of all existence in time and space are organized as the elements of human nature ought to be, or that the highest human ideal is justified, is true and obligatory, because it expresses the principle by which reality itself is constituted and directed. On the one hand, it is a protest against relativism and scepticism, especially in moral matters, and on the other hand, it is a reaction against the mechanistic explanations of Nature in which the pre Socratic philosophy had culminated. In this latter aspect it appears in the *Phædo* (97 D) as the contention that efficient causes are merely accessory causes or conditions (*συναίτια*), that only final causes have explanatory virtue, a thing being what it is because it is best for it to be so, and in the *Timæus* (29 D), where the universe is said to have come into existence because of the benevolence of God, who wished to spare and share some of his inexhaustible goodness. Metaphysically, then, the supremacy of the Good means that ideals are not only real but are the bases of reality, and that, just because of this, scientific explanation, if it is to be adequate, must be couched in teleological terms.

All this, it seems to me, has a running bearing on Plato's conception

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of dialectic as a process in which thought, after ascending to the supreme Form, returns and exhibits reversely as deductions from it the steps that led up to it. The teleological relation is asymmetrical, has only one direction, the subordinate Forms may point to the Good, but the Good does not point to them, so that from it alone we cannot by pure reasoning trace out their generation.

There is yet another difficulty in Plato's theory, already hinted at and due to the same cause as the other two, that is, to the lack of a single, consistently held definition of the Forms. It is the difficulty of determining the precise scope or contents of the realm of Forms. For the most part, the Forms discussed or referred to by way of illustration, are values like goodness and beauty, logical or quasi-logical relations like sameness and difference and equality and inequality, and geometrical notions and the theory would be less unintelligible if it confined itself to such most general categories of fact and value, though it would still be hard to conceive of these as having an absolute being. But Plato's habitual way of arriving at the Forms is by the Socratic search for universal meanings. Thus, that, and another line of action are good, equality is predicable of many things—and so on. What, then, are these constants to which many things can be referred? This mode of approach defines the Forms as universals, or at any rate implies that all universals are Forms. Socrates is made to say so in the *Republic* (596 A): "We have been in the habit of assuming the existence, in each instance, of some one Form, which includes the numerous particular things to which we apply the same name." And he at once goes on to say that therefore there must be, for example, a Form of a bed and a Form of a table. For the same reason it is asserted in the *Phædo* (102) that there is a Form of tallness, and elsewhere Forms of other relations are asserted or implied. No kind of universal, then, seems to be precluded from the realm of Forms. Consequently there should be a Form of evil, which would contradict Plato's view of the Forms as aspects of the Good, and a Form of change, which is the negation of that constancy for which the Forms almost primarily stand, and Forms of motor-cars, spectroscopes, stethoscopes, and whatever human ingenuity may in the future devise.

We are left, then, in deep obscurity on three points, namely, the relation of the Forms to particular things, qualities, and events, their relation to one another, and even the classes of objects of which Forms are to be posited, and since these three points cover the entire theory of Forms, the entire theory is obscure. We can understand why Plato fashioned the theory if we enter with intimate sympathy into his mind, appreciating the strength and interplay of the various interests that made his personality so rich, but the theory itself, considered apart from the mind out of which it sprang,

considered as a philosophy instead of the achievement of a particular person, cannot be made intelligible—unless, indeed, in a way that our texts do not warrant, we attenuate the variety of its content to one only of its tendencies. Such a conclusion may be charged with stultifying itself by appearing to deny the obviously towering philosophical genius of Plato, but of this charge it may be acquitted on three grounds. (1) Plato lived during the earliest infancy of science and philosophy, when many problems familiar to us were scarcely even incipient, when many distinctions were still undiscovered, and when a philosophical terminology had yet to be devised. That we tend to forget this fact is one of the most striking proofs of his ageless genius. (2) Several relatively late and therefore presumably mature dialogues (*Parmenides*, etc.) remain uninterpreted. These may, of course, harbour the light, though I am doubtful. (3) We do not possess from Plato's hand a single systematized exposition of his views. All his works are dialogues, each being largely restricted to a subject defined by its dramatic occasion, all works of admirable art reflecting unlimited imagination, intense moral and religious feeling and a bubbling, irrepressible spirit of playfulness, quite as much as the spirit of rational inquiry. I often wonder whether we have yet measured the extent of Plato's humour, suspecting that not a few of the passages over which we perplexedly brood, and against which we gravely muster the heaviest artillery of learning, were intended only to raise a smile.

SOCIAL MACHINERY AND THE SOCIAL SPIRIT

PROFESSOR HELEN WODEHOUSE

I

THERE is a certain experience which awaits reformers of all parties sooner or later. They make plans for amending some small part of the world, and consider means for getting the idea into practice, and then someone interposes a comment: "This plan," he says, "is all very well, but it is mere machinery. The world can be saved only by what is inward and living, by change in heart and thought, by renewal of spirit."

We may take a couple of quotations as examples, both by distinguished writers. One comes from J. A. R. Marriott, writing in the *Hibbert Journal* in July 1917:—

"Analyse the elements of any one of the specific problems ahead of us, and what do we find? Take, for instance, the industrial problem; probe it to its depths, and you find that the essence of the demand is not so much for new methods in business organization—though these may be called for—not for the creation of new machinery—much as this may be needed—but rather for a new spirit among the human agents in industrial production, and a new personal relation between man and man."

The other was written in earlier days, in Lord Hugh Cecil's little book on *Conservatism*:—

"What is the mischief at the root of the competitive system? It is important to consider this, for unless the root of the evil be taken away, we may be sure that we shall not mend what is wrong, though we may change the particular manifestation of it. The evil root is plain enough. It is that men are guided by self-interest. If Christianity is to reform the social system, it can only effectually do so by inducing people to substitute love for self-interest. Nothing is more certain than that the mechanism of human society will only express human character; it will not regenerate it. Character will transform the social system, but it takes something more vivifying than the social system to transform character. Accordingly, unless there

is prospect of such an improvement in human nature as the general substitution of love for self interest, we may be sure at the outset that no change of social or political machinery will redeem society "

Such interpositions are peculiarly baffling, because they are so true and even truistic on the surface, yet they seem to block the path to everything else. They are not so much a red herring drawn across the path as something more cumbrous left there: Mr Marriott indeed has a practical moral and a good one—the promotion of education but Lord Hugh Cecil leaves us standing where we are. He seems to be saying "Do nothing because you cannot do everything. Begin no enterprise, because you cannot be sure of carrying it to a completely perfect end." Yet he would not admit this paraphrase, because he sees two separate kinds of enterprise, of which the one is not the beginning or the end of the other nor even a help on the way, but irrelevant.

There can be no short answer, but for our own comfort we seem obliged to think out some answer, however roundabout or long. We are driven to consider the whole matter of machinery and spirit and the relation between them. If the question arises within a society, it also arises within an individual. What is the relation between a man's spirit, or character, or self, and the system and organization of his life? Let us begin at the beginning.

II

"We brought nothing into this world with us," says the Prayer Book. "We do bring something," says the baby's mother. "instincts and promises and possibilities of all kinds." And yet they are nothing as yet, and we are nothing. We have still to be created, and to help create ourselves.

The baby grows, and as he grows he comes into life. The instincts are no longer bare possibilities. He is energetic in successive particular ways: the way of moving one's arms and legs, and the way of crawling and the way of staggering. He demands the fulfilment of an accepted routine of fun and food and sleep. He is inquisitive about a particular rattle and a particular cat's tail, and the layers of experience leave dispositions to do particular things with these, or to refrain from doing them. He is no longer confined to the present moment. The hours in turn invite him into different parts of that larger personality which he and life together are building. These powers, these acceptances, these interests are part now of an

Why asked a W.E.A. member of me do people talk about a red herring across the path?—it wouldn't be any obstacle. They might at least say a whale.

objective self within which, and moving about in which, his little subjective centre of the moment's impulse and the moment's attention lives. And as this larger self grows round a baby, so it grows round each of us all our lives.

Consider how tiny, at any moment, is the momentarily existent part of me. One little bit of the world lies under the shifting focus of my attention; one little bit of a big interest is consciously throbbing; one little bit of a big acquired power is being used. All the boundaries are undefined, there is a certain awareness of what lies beyond them, and of my ability to bring in more of it if I exert myself. But with all allowance made for this, the moving globe of light is very small and its content very changeful. How big, and on the whole how stable, my objective personality is. Our impulses fade with the moment, but they store themselves up in character, and are waiting there when we next think of the subject a month hence. Our resolutions, as actual resolvings, die with the moment, but they store themselves up as resolves, as principles and guiding ideas, and as decisions taking effect. How miserable if our progress had to depend on the momentarily present, momentarily living impulse, on an endless series of fresh decisions. I commit myself, into the care of what lasts.

Continue still with the individual. This larger self within which his lit small self of the moment moves about—this storehouse of energies and of guides—this may be considered in one important aspect as the establishment with which he works. Here are all the means of living, each one in place when he wants it. Here are his *ways* of living, determining the movements which his actual self will make next time it comes that way. Here are the deep sources of energy. This is the power-house; here are the ropes and wheels.

And a high necessary act of the lit and moving self, again and again, may consist in doing something to the ropes and wheels, which then will be left again in the dark till they are needed. A boy, hitherto idle, feels his vocation to become a doctor. Then he must link his private engine with those massive engines of other people's making, that we call schools and universities and hospitals; and, within his smaller sphere, he must make a time-table for his private work, and arrange terms and holidays, and create habits or fasten himself to customs which will set him hour by hour and day by day in the right places and the right attitude. Such mechanism by itself could not transform his mind or character, but without its means his mind and character can hardly transform themselves; and indeed it is more than merely means to end, since these right places and right attitudes are themselves part of that new life which he has set out to lead.

The disdaining of machinery, the habitual failure to register a

good impulse in some detailed arrangement which will assist its future carrying-out, the excessive trust in the moment—such things we know are of bad omen for a man's life. If a purpose dies, its machinery will no doubt also become dead and insignificant (unless it can still serve some larger idea), but the commonest death of a purpose is its choking on the second occurrence, by lack of that channel which should have been prepared at the first. The mechanism through which it is to work is the very body without which the soul cannot live.

And the same thing applies to the whole organization of healthy life. We must harness ourselves to some valuable work, we must plan our customs in tune with the laws of physical health, we must open our windows to the winds which blow through the universe. To side-track our angers, to still our jealousies, to see ways out of our tangles, we need detailed means (which are not merely means) as much as if in the physical world we were trying to learn to fly. So the popular emphasis on personality and talent, and "genius will out" neglects the detailed means, the planning and preparation, the margin of leisure, the access to a world of ideas in books or company, and thus does historical injustice to women and to the poor. So a young teacher may try to control a class by sheer weight of momentary personality and the driving impulse of command, and when this fails, he takes to physical bullying, or else he despairs. It needs experience or training to bring home the need of careful preparation of something to teach, and something for the children to do, and the organization of every step in the system of acts and ideas. It is not very different when we seek to manage the crowd of impulses which are ready to act at any moment within our own self. In either case it is unwise to look down on the needed arrangements as merely mechanical.

When indeed is a machine a "mere" machine? We seem to call it so with some ground of justice under two conditions: when it is working badly, and when it is not being worked. The student's neglected time-table, and the teacher's lesson or methods which no longer fit the particular class, may be so spoken of. Our own body may fall under the reproach, as when we want a mote removed from our eye and the eyelid shuts "mechanically" against the proffered help. Our powers, inborn or acquired, are mere machinery when they lie idle, and they strike us again as mechanical when inappropriately used, as by the delirious patient who talks scraps of unknown tongues, or the devout but stupid person who quotes the Bible and must always go on to the habitual end of the passage, whether it applies or not. Purposes, principles, standards of judgment are mechanical when they are unfit. ("This boy's composition seems wonderfully solid and original for his age," said a visitor to

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a certain school "Perhaps," replied the headmaster, "but I should never call that a really good composition look at the tail of that p") And our very impulses have the merely mechanical quality when they are not shaped and permeated by life taken as a whole; as when we hear our own voice speaking amiably and compliantly when we know we ought to be resistant and stern But the machinery remains, yet the merely mechanical has disappeared, when our impulsive kindness is working in the service of our deliberate kindness, when our standards of judgment fall into their fitting place in art and thought, when our capacities are fully and accurately used in a rich and well adjusted social life and when hand and wood and stone, water and fire and wind and cord and steel, work in widely extended harmony at what life needs

Machinery is not one kind of thing set apart Everything in the universe is machinery in one aspect of itself—when we look on it as a servant, as a vehicle or extension of something else When for a time it is an idle servant, or a vehicle that breaks down and gets in the way, or when it gets out of control and does wrong, then in reproach we call it a "mere" machine *We are never justified in this term of reproach unless we have grounds for reproach* And when we say that machinery alone is not enough, our statement is true, because nothing in the universe is enough when it is alone, and because when we consider a thing as machinery we are considering it in precisely that aspect in which (in common with all existing things) it demands company, demands something to serve, in which it needs (as everything needs) to be a part of a larger whole

III

We find then that it is no insult to the larger self if we consider parts of it on occasion in the light of vital machinery The permanent spirit and way of life, like the living body, is machinery in one aspect of itself, without thereby ceasing to live Turn now to the analogous spirit or establishment of a society

In an early stage of this discussion we said of the individual "Our resolutions, as actual resolvings, die with the moment, but they store themselves up as resolves, as principles and guiding ideas, as decisions taking effect How miserable if our progress had to depend on the momentarily present, momentarily living impulse, on an endless series of fresh decisions I commit myself, into the care of what lasts" So in like manner a nation may commit itself, recording and storing its decisions once made, in custom institution, and law These may become "mere machinery," no doubt, when they become useless, or when they resist some change in the real need; when they cease to be attuned to the national life as a whole But

meanwhile they can be machinery and spirit at once, true ways of living. For a nation, as for an individual, the distrust of the stable element in life—the belief that steadiness and commitment must mean something dead and inorganic and alien to spirit—may be a most dangerous mistake.

In the industrial problem, said one of the writers we quoted at the beginning, "the essence of the demand is not so much for new methods in business organization nor for the creation of new machinery but rather for a new spirit among the human agents, and a new personal relation between man and man."

Set beside this some remarks of a well known employer —

'Everybody knows when the employers meet the workmen, as they do regularly in most trades for the settlement of various disputes, what an enormous amount of work is done amicably, and what a number of disputes are nipped in the bud and never give any serious trouble.' 'I find that we employers go to London, York, Manchester, Sheffield, or any other large town, we there meet with the Trade Union leaders, we have long talks and discussions, and, in the main, we get things thrashed out and settled on a fair and reasonable basis.' 'The end of it has commonly been that we, the employers, who meet the Union leaders, usually come to look on them as friends not only with whom we can negotiate but whom we can trust.'

Now is this an account of organization or of spirit? Is it not both? one name stressing the stability and commitment, the other stressing the attunement of the working life as a whole? True enough that the details may often give us difficult practical problems, it is hard to know exactly when a screw should be tightened or loosened, and which way exactly a rope should be drawn. We must not prematurely force the current of life one way, nor must we keep it by force in a direction which life has ceased to need. But here in a concrete case, if the description is sound, we seem to have a piece of organization, a means to good living, which is also part of good living.

If so, then bad organization might also be a part of bad living and a means to worse living, since an unadjusted part will hurt parts connected with it, and will do the more damage the more the whole approaches the condition of a living body. Take another comment by the employer quoted above —

"When the war came on what struck us all at once was the very serious difference between the cordial affection that

¹ Sir Benjamin Browne in *After War Problems*

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existed between the officers and men in our armies in the field and the hostility that appeared to exist between capital and labour in the workshop at home. The hostility between labour and capital in the workshop is the bad thing that ought to be altered and put on the same footing as the loyalty that exists on the battlefield."

Looking at this contrast some have suggested that the economic relation of employer and employed in the workshop (so different from that of the officers and men) may contain a partial hostility in itself, and may need alteration if the hostile feelings are ever finally to cease. The suggestion may be mistaken, but it is not irrelevant and not unspiritual.

IV

Sometimes the opposing of spirit to machinery seems based on contrast merely between the apparently simple and the apparently elaborate, though it takes its poignancy from those hard steps in experience which lead from the glow of an ideal through the wrestling to work it out. Here is a letter of 1918:—

"Englishmen of the new union warmly approve the idea of the League of Nations, but their conception of the League is not copied from Fabian studies or from the speeches of American leaders. It was the growing appeal of all active Englishmen—that called forth Mr. Lloyd George's statement of aims last January, but the appeal was less for the formulation of a political programme than for a confession of spiritual responsibility. To Englishmen, after nearly four years of suffering, there is, to speak frankly, something cold and unfamiliar about American or Fabian formulations of a League of Nations, with constitution, courts, and by laws all complete. They perhaps regard such machine-like plans with a distrust hardly less deep than the repugnance they have felt for the artificial carving of frontiers by the secret treaties. Neither the one nor the other represents the victory they believe is yet to be won by the 'sword of the spirit'. They wish to speak in a constitutional convention of the nations, not to draft the proposals and counter proposals of the peace conference."

Notice the odd, pathetic anticlimax of the last sentence. What shape of body, we all ask, is to be worked out by this new expansion of the world soul? A great teacher has written in a different connection: 'The spiritualization of the natural body is not to be looked for in an astral or angel body, but in the gait and gesture, the

* In the American *New Republic*, July 6th, signed 'An Englishman'.

significance and dignity, that make the body of the civilized man the outward image of his soul, and distinguish him from the savage as from the animal. The human soul becomes actual itself only by moulding the body into its symbol and instrument ' : ' Not an astral or angel body ' ' No one, probably, would stake all his faith on particular details in that constitutional convention of the nations which we hope may yet be moulded to the world's desire. Yet, cold or not, will not this body need by laws and minutes, and committee meetings, and proposals and amendments?

At present one of the commonest forms of the opposition is found in the custom of picking out one kind of institution as essentially mechanical, and limiting its functions accordingly. I suppose this is implied in the advertisement of the Lifeboat Service, which appeals for my help on the ground that "It is Your Service. The British people themselves maintain it. No subsidy from the State." But it is made explicit in an educational essay 'The State does not originate ideas. A Government department is a machine, and we cannot expect from machinery, even intellectual machinery, that spiritual quality which alone prevents the growth of knowledge from becoming the strengthening of malign powers.' From a Department in the strict abstract I suppose we could not expect anything, not even that it should exist. But in the concrete, if you have a man of spiritual quality, and that quality functions when he runs a school with his own capital, and when he is supported by an endowment, and when he is appointed by a Company, and (for anything we are told to the contrary) when he is employed by a Local Education Authority, must it necessarily disappear if you make him an H M I? Let me quote a letter written by the middle-aged headmistress of an infants' school in a desolate colliery district. I know her well and have also met the inspector of whom she writes —

' We've had Mr Brown at school and he was *fine*. He was inspiring, he *always is*. I think I'd got to the end of everything when he came. I was tired of all that we were doing and everything else too and felt that things were standing still or rather going back in the school. Then he came and gave an entirely new view of things and plenty of new suggestions, and made me feel that there was plenty to do still. He made me feel enthusiastic again, and that I had still plenty to do and plenty to aim at, and that's what I wanted ' '

Mr Bertrand Russell, after cutting down on all hands what the State may do, allows it one thing. ' There are matters in which the

* B Bosanquet *Essays and Addresses* p 106

* L. Paton in *The Nation and Athenæum* September 10, 1921

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welfare of the whole community depends upon the practically universal attainment of a certain minimum, in such cases the State has the right to insist upon this minimum being attained. The State alone can insist upon the children being provided with the minimum of knowledge and health which for the time being, satisfies the conscience of the community. Will this mean that the State (or the Local Authority) may provide attendance officers, but must not provide scholarships? and that inspectors must go back to the work to which Robert Lowe confined them in the sixties? and must we watch again that creeping arterio sclerosis in the schools which we read of to-day in the Reports of Matthew Arnold and his colleagues? Many of us since Matthew Arnold's day must have known the demoralization which comes from working under an energetic responsible person who conceives it his duty to enforce a minimum and to take no notice of anything else.

"A political law," says Dr MacIver, can apply only to general situations and can enforce only external fulfilments. Thus the State is at once outside large spheres of human activity. It can enjoin actions or rather activities but not the spirit of their fulfilment. But large classes of actions are wholly dependent on the spirit in which they are fulfilled.

Further, by its generality and externality it cannot touch (save by way of repression) that spontaneity and initiative of individual life which is the beginning of all social processes and the root of all social value. The State works with an instrument which is necessarily formal, prescribing the general external conditions of social life, upholding the main system of those social obligations which may be externally fulfilled. Its instrument resembles, in Aristotle's phrase, no 'lead rule' which can adapt itself to the actual mouldings of the social structure, but an unbending rod which can measure only its general outlines."

Yet must we not say that the State, like every other living body, has more than one instrument? Of its instrument of legal compulsion Dr MacIver's description partly holds, though even of this it does not hold entirely, at any rate when a man is tried for breaking a law judge and jury and magistrate are all likely to pay some heed to the spirit of his non fulfilment. Even here, therefore the instrument is not wholly made of the iron of abstract compulsion, it contains also the flexible element of human reason and human purpose for good. And all the other instruments of the State may contain this up to any extent. Let me still speak of inspectors, who

seem to me extremely significant. The State, says Dr MacIver, 'cannot touch, save by way of repression, that spontaneity and initiative of individual life which is the beginning of all social processes and the root of all social value.' As the inexperienced head of a new college, with a body of governors equally inexperienced in college life, I came to a time when my governors seemed determined to impose some rules which I thought most dangerous to that spontaneity and initiative. Our State inspector came in that time of trouble as an angel from heaven, soothing fears, guiding inexperience, and protecting the root of social value for all future generations in that college.

Our laws, our schools, our institutions are imperfect enough, but the imperfection is not the bad fit of an alien imposition, but the irregularity of the bed cut by the stream: the language worked out under pressure of practical needs, the big Self growing to enclose the small one, the Word made flesh. We do not deny the imperfections—we least of all into whose work they enter. Mr Russell speaks of "a few rare teachers who have enough energy of belief to break through the system within which they are expected to work." Yet

' Let us not always say
Spite of this flesh to-day
I strove made head gained ground upon the whole ' .

After all, were it not for this poor national system, many of us would have no chance of doing the work at all.

V

But to return to our main thesis, the general importance of machinery—it is indispensable and it is inevitable. For good and evil alike, our habits and impulses write themselves in the large letters of custom, if not of law. The channels are cut for the next flow of the spring: the ropes and wheels are arranged for the next instalment of power. A hundred years ago we were afraid of mechanization, and thought we could avoid it by refraining from making laws. When a Bill was introduced to prevent the use of small children as chimney sweeps, it was opposed on the ground that such things should be left 'entirely to the moral feelings of perhaps the most moral people on the face of the earth.' If the legislature attempted to lay down a moral code for the people, there was always a danger that every feeling of benevolence would be extirpated. The House of Lords threw out the Bill, and children under ten went on sweeping the chimneys. Law and custom together prescribe the natural seeming, the almost inevitable form of action.

* Lauderdale in 1819, quoted in Hammond's *Town Labourer* p. 190.

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for our moral feelings ' Two boys John and Richard Clough aged twelve and ten years were tried and found guilty of stealing some Irish linen out of Joseph Thorley's warehouse during the dinner hour The Chairman sentenced them to seven years transportation On its being pronounced the mother of those unfortunate boys came to the Bar to her children and with them was in great agony, imploring mercy of the Bench With difficulty the children were removed Yet probably everyone had acted conscientiously except the boys '

If our spirit is right say our commentators what does machinery matter? If our spirit is wrong what can machinery do? It is this contrast that we protest against Custom and institution and law are to a nation what his principles and his standing purposes and valuations and his general plan of life are to a man And it is not only a question of analogy for the nation's self is our own The laws and customs are not only like our plan of life to a great extent they constitute our plan of life If there is something wrong in this plan and fundamental custom we may yet with good will and contentment at every conscious moment and yet be partners in a never ceasing crime A heroic person says Walt Whitman walks at his ease through and out of that custom or precedent or authority that suits him not A nation however heroic will certainly not walk thus at its ease The task of the world in us is of a more patient kind—that of making and saving its soul by rethinking and rewilling it in every generation in every part that needs making it better not only in its changeful impulses but in their stable embodiments and enduring channels not only in the thought and will of the passing moment but in the form and commitment given to the thought of the past and the purpose of the future

And part of this work is known as politics

* *Village Labourer* p 200 Shall we place this beside the eighteenth century's anti political comment —

How small of all that human hearts endure
That part which laws or kings can cause or cure!
Still to ourselves in every place consigned
Our own felicity we make or find
With secret course which no loud storms annoy
Glides the smooth current of domestic joy

VEDĀNTA SOLUTION OF THE PROBLEM OF EVIL

KALI PRASAD, M A

VEDĀNTA endeavours to base itself essentially on the facts of experience—in the fullest sense of the term. It recognizes the occurrence of everyday experience and the so called fact of evil, but it refuses to view them as real. The real, it says, like Hegel, does not exist, and that which exists is not real. Evil is only an "existent"—as all this Samsāra is—but not the ultimate Real. But it will be at once objected that if evil is an appearance, a Māyā, why should this appearance appear at all? If it has no foundation in reality, how and why does it occur at all? Further, how can anything be known as real unless it should appear (to us)? Reality must appear. If it is said that the appearance of evil dissolves ultimately, the question arises, How about its existence at the present moment of its being? Is it not at least real then? To the person having an illusion, it is real and present. Of course, when he attains knowledge through experience, the illusion (e.g., of the snake in the rope) is destroyed. But the question is: What about the time when he does have the illusion? Was it not real at that moment? In view of this difficulty the realists, and even the "critical" realists, adopt the easy way of treating evil as a fact, here and now, which constitutes an inalienable element in the texture of experience. We have not, it is urged, to speculate the problem, but to face the reality of evil, not to explain it away as an abstraction of thought, but to make room for its stern reality in our theory of knowledge. 'It is no longer a problem, it is a fact.'

The Advaita-Vāda, on the other hand, accepts no such line of least resistance. The fact of evil it never cares to dispute, it merely repudiates the claim of the fact to reality. The 'fact' turns out to be illusory when it is viewed in a suitable context. The very fact that the illusion of the snake is destroyed shows that it was never real, for the real is never destroyed, it always endures, it is eternal. It may evolve and grow, but it never suffers annihilation. The Real, according to Vedānta, is that which continues in all the three forms of time, past, present, and future. It is timeless, for time has meaning and reality only in reference to it. Continuance and eternality thus constitute the ultimate, absolute criterion of truth and reality.

It is not correct to maintain, as Bradley seems to, that ultimately

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the contradictions, ineoherences, and discords will all be transmuted into the harmony of an all-embracing Real. This suggests that the contradictions were really contradictions. But if a contradiction is real, how can it ever be dissolved? The point is that, according to Vedānta, the so called contradictions, discords, and evils were never such, were never real at all, not even in the moment of their so-called being. They should not be regarded as lesser incomplete "reals" (r) which are absorbed into the perfect, complete Real (R). The fact is that the lesser reals are not real at all. The Real is eternally full and perfect. It is the One, the whole which has no "many." If the reals were real in any form there would be no disillusionment for there could not have been any illusion at all. Illusion occurs only when we take something to be that which it can never be and never really is. The 'many' are mere 'existents,' but never real. We treat the 'existent' as real when we superimpose on it attributes which cannot belong to it. Extra personal attributes are, for instance, superimposed on the Self, if a man considers himself sound and entire, or as long as his wife and children are sound and entire. Attributes of the body are superimposed on the Self, if a man thinks 'I am mute, or deaf, one-eyed,' etc. attributes of the internal organs, when he considers himself subject to desire, intention, doubt, determination, etc.¹ Why there should be this superimposition, may well be asked. How, if all be consciousness, Śakti or Brahman, is that 'principle,' viz. of unconsciousness, Māyā, the veiling "principle" there? The answer is given in the definition of 'Śakti'. It is the function of Śakti to determine or determinate, i.e. to impose the subject-object relationship, the dualistic and pluralistic categories on the universe of human experience. It is we who, in ignorance of our essential reality, construct barriers between our individual, differentiated selves and the absolute undifferentiated Self. The immature, unevolved intellect, incapable of envisaging reality as a whole, makes cross sections in the Real, and views each section as the true symbol and representative of the whole. It enjoys the narrow circle of its own making, for it has not yet developed a comprehensive grasp. It cannot help thinking in terms of itself and the other, non-self.

In truth, however, the whole universe is the self—an intensive, thoroughgoing unity—whether as I (Aham) or 'this' (Idam), subject or object, the one or many. The self becomes its own object. And it becomes its own object that it may enjoy, as it were, this dualistic experience. Yet in reality it ever remains what it was in its unitary blissful experience. This is the eternal play in which the self

¹ *Shankara Bhasya* I

² Brahman indeed is this whole world this widest extent' Cf. *Mundakopanisad* II, 11

hides and seeks itself 'The formless cannot assume form unless formlessness is negated Eternity is negated into finality, the all-pervading into the limited, the all-knowing into the 'little knower,' the almighty into the 'little doer,' and so forth It is only by negating Itself to Itself that the Self becomes its own object in the form of the universe " This superimposing and self limiting characteristic of the Śakti—Nīṣedhavyāpārārūpaśakti—is completely *sui generis*, though not in the least mysterious, for we find its closest analogue in our own self consciousness We "enjoy" this dualistic experience in the intimate consciousness of our being Why we should do so seems to be a meaningless question, for here we are concerned with the immediate, ultimate, and fundamental fact of experience But more of this later

Further the conception of error and evil is based on atomism Why do we call an object, an event, "a slice of history," evil? Simply because we do not take the object or the "slice" in the totality of its being in its indissoluble relations with the universe When we take a partial view things are apt to appear in a wrong perspective We fail to take an all-round view, and hasten to stigmatize an object as evil ' So far as the mere stigmatizing of an experience as evil is concerned, we may not be far wrong, for it is a matter of name and form The real mistake or confusion occurs when we regard the "evil" object or experience as *per se* evil and eternally such This is atomism An object taken in this sense of a relationless entity is nothing but an "apotheosis of a particular " It is a perfectly arbitrary and unwarrantable division of space-time But an object in and by itself is nothing at all Apart from the universe of its relations it means nothing and is naught A patch of colour in a painting which it glorifies appears ugly and monstrous when by itself A note played by itself is meaningless noise, but in its appropriate relations it produces a symphony which enthral the soul This is the familiar coherence view, only its application here is more thoroughgoing. It may be objected that the practical necessities of life leave no time to view an object in all its relations or even in most of them,

1 As to the possibility of an all round view it may be said that it is not attainable by our finite and limited intellect and experience But this is dogmatism Science proves that we enlarge our perspective every day as the intellect grows and as the instruments of perception become more and more perfect Vedānta recommends various Sādhnās, and Pātanjali in *Yoga Darśana* suggests "Abhyāsa" (Practice) and 'Vairāgya' (Renunciation) for the control of the different Vṛttis' (Senses) with a view to the attainment of Nirōdha —the realization of the ultimate experience Nor is it merely a matter of theory A great many 'Rsis' have acquired this universal cognition and an ubiquitous outlook which is necessary for the true evaluation of the human experience in their life That is why they are called 'Jivan Muktas "

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and we cannot wait for perfect knowledge to pronounce upon matters in regard to which some sort of definiteness and direction is essential for the guidance of thought and action. Indecision and inertia will mean death. But it is one thing to dogmatize, quite another to be conscious of our limitations. For a long time to come our knowledge (as also our capacities for action) is bound to remain imperfect and provisional but it is a great step forward to be aware of its tentative and imperfect character. For in that case we shall not be deluded into the snares of "Avidyā" or "Māyā". We shall ever have that healthy suspicion if not a robust conviction that what we are experiencing however great and vivid in air of reality it may possess is ultimately in appearance only. A mirage never deceives the wary though it may possess all the credentials of sensuous reality. The uninitiated says the Gītā take the joys and sorrows of their mortal existence as immutable elements in the life of the soul, but the wise heed them not. They live and move in the atmosphere of mortality, but have their being in the serene calm of the Eternal. Like the lotus they bloom with the fullness of being, and remain uncontaminated by the surrounding mud and mire. They are not affected by the law of Karma, inevitable as it may be. For they have lived through and destroyed all their Kārmic bondage. They are beyond good and evil. Though in the world they are not of it.

MĀYĀ REPRESENTS DEGREES OF REALITY

Further, there is a misconception in the mind of some thinkers that Advaita Vāda does not recognize the externality and existence of the tangible world of everyday experience, that it is solipsistic or acosmistic. But this is a great mistake. That the world of every day experience is a fact and exists is, as we have seen, never disputed by Vedānta. It does not regard it as an "Idea". It merely affirms that it is "real" only from the empirical point of view, not from the transcendental point of view. Though existent, it regards it as "Mithyā," i.e. unreal. Just as a dreamer when awakened regards the events of the dream experience as unreal and false, in the same way the sage awakened from the dream of Samsāra regards the latter as "Mithyā". Both the dream world and the world of everyday experience continue to be existent and true as long as we are in them but once awakened or liberated we recognize the unreal character of either. From the Vyavāhārika point of view, this world of objective experience is a fact and an existent, but once this standpoint is transcended it ceases to appear real. And the growth of experience stands for the gradual transcending of this Vyavāhārika standpoint and the eventual attainment of Pāramārthika

excellence : Vedānta gives to the world as much objectivity and reality as the most extreme realists would desire. But it transcends realism, and stands for the assimilation, correlation, and re-evaluation of common experience. Realism judges each event and slice of history as it occurs, the Vedānta, after having taken stock of individual details, organizes them into systematic unity, and surveys the whole before finally recognizing its value and reality. Confronted with the bewildering multiplicity of objects, the realist loses sight of the unity that permeates them through and through and makes even their apparent manifoldness possible. The Vedānta keeps this unity steadily in view. In one sense Vedānta is thus a pronouncedly realistic system, in another and more exact and exalted form it is eminently idealistic. It is important to grasp this apparently dualistic character of Vedānta in order to understand the rather illusory conception of Māyā—the so-called evil principle. By calling it "apparently dualistic" we only mean to point out that ultimately and in the highest sense it is a system of objective, Absolute Idealism. Throughout we find the two strands running concurrently, and the whole texture of this philosophy is closely interwoven with them. It prepares a distinction between the higher and lower aspect of truth, or rather its apprehension. The lower ministers to the undeveloped minds, and the higher is meant to satisfy the more highly evolved intellect. The one is "Vyavāhārika" (empirical), the other "Pāramārthika" (transcendental). What is real according to the one may be illusory according to the other. The "many," for instance, seem to be real from the point of view of imagination, as Spinoza said, "the one" from that of the "intellect." Kant made a similar distinction between *phenomena* and *noumena*. But while in many passages Kant takes noumena to be only a hypothetical, metaphysical necessity, unknown and unrealizable in experience, Vedānta considers them to be ultimately real, and as perfectly and completely realizable as the phenomena themselves. That is, while Kant seems to have fixed a rigid generic distinction between the two, Vedānta views them as fluctuating elements in the one real. They represent only degrees of real existence. For reality has degrees or gradations according to the *assimilative capacity of the mind* or self. As the mind

* It is not necessary for the attainment of Mokṣa to renounce and forget the objective world altogether. Had it been so 'suṣupti' (dreamless sleep) and fits of unconsciousness would amount to Mokṣa. for in these states there is no memory. But this is not so. All that is essential is to recognize the Sam sāra as Mithyā, not to refuse to regard it as objective and external otherwise again 'Jīvanmukti' would not be possible. Cf. *Panchadasi* I.

* This seems to be the nearest equivalent of Advaita Vāda which literally means 'Non-dualism'—a system which believes only in the reality of the Absolute Brahman.

grows and develops, experience becomes richer and more varied and values change. The world of imagination, illusion and dreams, the sensible world, and the absolute, are all, in a sense, real. Only their status differs. The first is the lowest type of "real," because it is negated by the second, the second, though a higher type of real, is also negated by the intimations of Absolute experience; hence this too is not real. The third is the only reality which is ultimate, because there is no further experience which negates or transcends it. In this way, by an inductive elimination of the false values of "Prakṛitti," we arrive at the Real. By its definition the Absolute Brahman is ultimate "Pāramārthika sat" *par excellence*. Nothing is beyond it, for it is beyond all. As the sage of the Taittiriya Upaniṣad says:—

Wherefrom words turn back
Together with the mind, not having attained—
The bliss of Brahman he who knows,
Fears not anything at all. II. 4.

Or, as the Kenopaniṣad puts it:

Yasyāmatam tasya matam
Matam Yasya na Veda saḥ
Avijñātam vijñātām
Vijñātam avijñātām

It is conceived by him by whom It is not conceived of,
He by whom It is conceived of knows It not,
It is not understood by those who (say they) understand It,
It is understood by those who (say) understand It not. II. 11.

To the Yogin who has attained the broad intellectual vision of the sage evil ceases to appear as real at all. He discovers that it was not real, it did not really exist, and was naught. Or it was something which he had mistaken for something else. In the illusion of the snake in the rope, the snake never really formed any part of the object (rope) perceived. Thus, when reflection corrects the illusion it shows that the illusory object was never partly or wholly any part of the entity which was perceived as the illusory object. The snake perceived never was, nor is, nor ever will be any part of the "this" of the rope which was mistaken for the snake. Accordingly, falsehood of an appearance consists in the fact that its existence may be denied in all the three possible temporal relations. The standard of truth and reality, on the other hand, is possibility of eternal perception, eternal existence. The so-called evil principle or Māyā does not conform to this criterion, and hence it is not real in

the ultimate, Pārāmārthika sense.¹ The only reality that completely fulfils this test is the Absolute Brahman. It alone stands while everything else changes.

The one remains the many change and pass
Heaven's light forever shines earth's shadows fly

But it does not follow that the Absolute of the Advaita-Vādin is a blank, unchanging, featureless identity, that it is static, wooden, and stagnant. This is the common criticism. But though in itself unchanging—for change implies imperfection and finitude—the Absolute is the permanent substratum of all change. It is the standard or measure of change, and as such it cannot itself change.

ABSOLUTE AND PERSONALITY

Again it is sometimes feared that the Absolute swallows up our personality, that the attainment of the ideal (if possible at all) means the eventual dissolution of the individual, and all the values which had supplied the urge and inspired him in the pursuit of the goal. This is the Pluralist criticism. Personality, it is argued, has value, a value that must be conserved in any scheme of the Universe. If it is annihilated, there is no incentive to good, and ethics falls to the ground. The ultimate must be, according to this way of thinking, an irreducible plurality, a vast domain of independent principalities and centres of power, a community of windowless monads. But this is another illustration of the insidious influence of atomistic metaphysics, though here a little dignified by some plausibility and show of reason. What is meant by attributing absolute reality to personality? Is there, or can there be, such a thing at all? It is only by a false abstraction that we deify individuality. What can an individual, a particular be in and by itself apart from other particulars, *i.e.* the universal? Our personality is nothing except in relation to another Personality. The Absolute Personality (if the expression be allowed) is not anything by itself, apart from concrete, particular "personalities", it is the *same* as these. The individual come to himself is the Absolute. Each personality is not distinct from another—there is no "another"—it is but the common unity appearing in

¹ It is necessary to remember that Māyā might be viewed from three different points of view. From the standpoint of the liberated it does not exist at all; from that of the learned it is something mysterious, both real and non-real, something which is contradictory and 'Anirvācya'; and from the point of view of the uncritical man of common sense it is real and existent. The latter experiences the Samsāra, its joys and sorrows and is inexorably bound by the laws of Karma, taking births after births. But on the attainment of Brahman knowledge the veil of Māyā is rolled up and disappears like a painted curtain. Cf. *Panchadasya*, Pt. VI, Chap. 5.

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many The criticism assumes that each person is meant to be and is eternally distinct from another Had it been so—and on no other hypothesis can the claim for independent 'eternality' be based—all experience would be chaos and scepticism the result of thinking Some sort of an occasionalism or pre-established harmony or a similar *deus ex machina* would have to be invoked in order to bring together the relationless mass of particulars into which the real is pulverized But more than two centuries after Descartes were necessary to prove the utter futility of such attempts But, thanks to the genius of our great philosophical sages, we, on this side of the waters, have never suffered atomism in any name or form to run riot We have avoided false and foolish abstractions, and have kept the facts of experience steadily in view Vedānta thus explains that there is a process of evolution of personality Each level yields place to the next higher, which is its promise and fulfilment One might as well be afraid that infancy is absolutely annihilated when adolescence is attained and adolescence abolished in age But just as youth is the fulfilment of childhood and age of youth, in the same way the lower stages in the development of self hood are fulfilled in and by the higher In the scheme of cosmic evolution nothing is lost—the lower is transcended by and transformed into the higher, the less developed into the more developed That indeed is the purpose for which the lower exists to become greater, to be utilized by the higher The lower itself is the consummation of the still lower It is transformed into the higher only to find its true function and being The glory of the seed is to be a tree, that of the embryo to be man, of the so-called ugly and evil to be good and beautiful We lose ourselves only to find our Self Like the snake, to take the illustration given by Vedānta, which sheds its slough only to put on its refulgent skin, we leave one narrow sheath after another, only to discover our ultimate Beatitude This is surely not destruction It is the highest attainment Life must come to its own

Then, as a matter of fact, we never had the so-called individuality which it is sought to protect and perpetuate We are always and strictly, says Vedānta,¹ the infinite "God though in the germ," "I am Brahman," may be claimed by the meanest of us, much as the meanest of the subjects of Louis XIV could have (equally well with him) exclaimed 'I am the State' In the earlier stages the veiling influence of the Upādhis prevented us from recognizing the Infinite Brahman in us The embryo can little dream of the worlds

¹ As Oil in the sesame seeds as butter in cream,
As water in river beds and as fire in the friction stick
So is the soul apprehended in our own soul,
If one looks for Him with true austerity (Tapas)

Cf Śvetāśvatara Upaniṣad, I 15

of growth awaiting for it. It is so to speak, struggling to find them and in time does find them. Just as we cannot see our own hand in darkness, so environed by the mists of Avidyā we do not see the Real in us. Indeed it is Avidyā which deludes us into believing that we have a separate personality. But when this immense ignorance is destroyed by the illumination of Brahman knowledge, we realize our true place in the cosmic consciousness. We then attain to the completest attunement to and harmony with, the Absolute self, which is the eternal goal and purpose of the Samsara. The appearance of 'mayic' manifoldness yields to the realization of the ultimate One. Until this is attained there is no "mokṣa" no freedom from births and deaths (in the self itself) from transmigration—which means stages in the evolution of the Self. This is what the Upaniṣad says —

Their never ending death they weave
Who here a manifold perceive

Mayā, then, is not something separate and independent. It is not a principle of evil and our soul is not like an arena where the two forces of light and darkness Brahman and Mayā, are for ever battling for supremacy. To believe that there are such two things is wholly inconsistent with the Advaita point of view. That would again be lapsing into the quagmires of atomism. In Itself and ultimately Māyā is nothing at all. It merely represents successive phases in the growth of self hood. It is the self itself in one of its aspects—the dynamic aspect. As long as there is evolution Māyā is necessarily there for it is the principle of dynamism and individuation. That is why the world the Samsāra, is known as Māyā—that is, not something evil, but something which has to be experienced—Bhoga—for the eventual emancipation of the soul from the thralldom of ignorance or Avidyā. From the point of view of the Absolute, however Māyā does not exist at all. Nor must it be regarded as inherent in the nature of the absolute Self. That would be a contradiction in terms. How does it then originate, will be asked? From the absolute point of view such a question is meaningless. It is of the nature of darkness, and how can one who is in the atmosphere of pure luminosity perceive or be affected by it. Once Brahmanhood is attained, the veil of Māyā is torn asunder, and our imperfect, empirical existence and individuality disappears. Intuition of such experience of the inmost intimacy of our deepest Self always beggars

* For the Absolute is nothing but itself. As soon as Ahankāra (egoism), makes it reflect over its greatness or even its own nature it is degraded and becomes Ivara or the omniscient Lord the creator of the universe the principle of māyic manifoldness. It no longer remains the Absolute. It is individualized.

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description. It is Anirvācya (undescribable), for language is too crude and imperfect an instrument to handle it. But because it is "anirvācya" and "avyakta" (ineffable), it does not mean that it is chimerical. The sensation of rose-smell is equally undescribable—for we attempt to describe it figuratively as sweet, delicious, lovely, etc.—but it is intensely real to the percipient subject. The experience is allogical and *sui generis*, and the abstract, dualistic categories of logic are ill adapted to do justice to it. The sage of the Upaniṣad, when asked to describe his intimations of Brahman experience, answered by remaining silent. The fact is that the Brahman-seeker ultimately reaches a level of experience where he intuits and gains reality "by a leap" as it were. That such a state is real and possible is proved by the actual attainment of the great jivan-muktas, the Rṣis, who have left some record of their great experience in the Upaniṣads. The so-called mysticism of Vedānta is nothing mysterious and esoteric. Brahmanhood is always attainable by all who must pursue it earnestly. It is a systematic, scientific process. Western thinkers often view such mysticism with suspicion, and regard it as something which is more or less inconsistent with the life of reason. But Advaita Vāda regards reason from a much more comprehensive point of view so as to prepare the way for intuitions, intimations, and other such experiences as ordinarily defy our narrow and abstract logical categories. Those who challenge its truth are enjoined to practise its doctrine to see its reality. That is why Vedānta is not only a philosophy—it is also a kind of living practical "religion," a demonstration of Truth and Reality.

THE PROGRESS OF PHYSICAL SCIENCE

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POPULAR interest in the progress of physical science has increased very rapidly in the last few years. Perhaps the spectacular 'mysteries' of wireless and the intriguing paradoxes of the theory of relativity are the chief causes. For every home now has its Magic Box—a piece of pure physics, there is not a familiar thing in it, not even that *sine qua non* of all things that 'work'—a wheel, only mysterious parts called condensers, grid leaks, inductances, and thermionic valves. And surely, when a Sunday newspaper produces a facsimile page of Einstein's recent paper in German containing abstruse tensor equations, reverence for the mathematical physicist is nearing its zenith.

In what follows an attempt has been made to view the rise of the most exact of sciences from the earliest times to the present day, in such a way as to show the connection between its theories and other forms of human speculation and to bring out the success of the scientific method in gaining that power over nature, the desire for which is the mainspring of scientific research.

Although in the very earliest civilizations of which we have records, that is to say in those of the Egyptians and Babylonians dating back to approximately 5000 B.C., there was no real science, if by that we mean the deliberate investigation of nature with the object of discovering general laws, yet systematic observations were made, chiefly in astronomy. But the current views on the universe in general consisted almost entirely of myths. For instance, the Egyptians thought that the sky was a tangible or material roof supported on four pillars, and suspended in mid air on the southern side of the world was a great river on which the sun-god made his daily voyage in a boat, fighting day by day an endless battle against Set, the demon of darkness. The earth itself was a rectangular box longer from north to south than from east to west, and the surface was supposed to be slightly concave, in order, presumably, to prevent people from falling off too easily, and also to keep the waters of the Nile in a central position. How they accounted for the motion of the stars or what they thought about the structure of matter, we do not know. We do know, however, that their gods were tangible—associated with corporeal bodies, and that although they believed in the immortality of the soul, they could only con-

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ceive of it as taking place in association with the body, and so bodies had to be carefully mummified and preserved. They were able to use numbers for a few practical purposes, such as reckoning the size of a field, but were somewhat limited by their inability to multiply directly by numbers higher than two, and complex fractions were quite beyond them. In spite of all these limitations, however, we must remember that a religious system, however absurd, shows a belief in certain governing principles, and that the world is not just a chaos.

In the Chaldean system the earth was a plane surmounted by a circular range of impassable mountains, which supported the material vault of the sky. In between the earth and the mountains was a great circular river, and the system as a whole was supposed to be resting on an infinite sea of waters. Here again a satisfactory mechanical explanation of the universe does not seem to have been attained. At any rate, although the contribution to science was very small, the art of writing was invented, and the Phœnicians simplified it by the use of the alphabet, an essential basis for scientific progress and a triumph of analysis of vocal sounds.

The real foundation of science took place with the advent of the Greek philosophers, in the eight hundred years from Thales to Galen 640 B.C. to A.D. 160. They succeeded in showing that the earth is spheroidal, that the moon is a similar body though much smaller, and that the sun is many times larger and farther off. The complex apparent motions of the heavenly bodies were explained by a system of epicycles, and although we know now that this was based on a false hypothesis, it was worked out in a scientific manner. The true hypothesis which placed the sun at the centre of the planetary system was advocated by Aristarchos of Samos in 288 B.C., but was not accepted until the time of Copernicus eighteen hundred years later.

Numbers gave the Greeks a good deal of trouble, and they were regarded as having a mystical significance, even Plato, for instance, thought that the difference between a king and a tyrant could be adequately expressed by the number 729! To the Classical mind numbers did not deal with spatial relations, but with visibly limitable and tangible units, and consequently they only imagined positive and whole numbers. Zero, for instance, could not be a number because no one could see it or feel it. The limitations of this view were noticed by Pythagoras, because, do what he might, he could not measure the diagonal of a square in whole numbers if the sides of the square were whole numbers. In other words, they are incommensurable. But this terrible discovery was kept a close secret by the Pythagoreans, a religious sect, who believed, among other things, that it was evil to eat beans.

Democritus was the father of the atomic views of matter, and held that matter consists of ultimate indivisible particles. In between there was just nothing—'void'—the Greeks had no word for space, they could not conceive of extension without matter.

Of the many Greek systems, the one which survived the longest—in fact for 2,000 years (350 B.C. to A.D. 1650), was that of Aristotle. He declared that matter is continuous, and somehow made up of four elements—earth, air, fire, and water, which contain the four qualities of hotness, coldness, dryness, and moisture. The earth was a sphere in the centre of a spherical universe, and the stars and planets moved in circles round it with uniform velocity. He chose circles for the orbits of the stars and planets because circular movement was the most perfect conceivable.

The Greeks were clear logical thinkers, but the capacity for making detailed observations was very rare among them. Nevertheless, it is to them, according to Professor Whitehead, that we must turn for the origins of *modern science*. For every philosophy reflects the world view of the period that produces it, that is to say, it is influenced in a subtle manner by subconscious imaginative beliefs. Now the Greek view, as Spengler and Whitehead have pointed out, was essentially dramatic. Nature was a drama in which all things played their parts. *Æschylus*, *Sophocles*, and *Euripides* are the fathers of the scientific imagination of to-day. "their vision of fate, remorseless and indifferent, urging a tragic incident to its inevitable issue, is the vision possessed by science. . . . The laws of physics are the decrees of fate." The belief in the order of Nature which this involved remained throughout the Middle Ages in its scholastic logic and divinity.

But the greatest contribution of mediævalism to the formation of the scientific movement, according to Whitehead, was the belief "that every detailed occurrence can be correlated with its antecedents in a perfectly definite manner, exemplifying general principles." This belief underlies all active scientific research. How has it arisen? "It must come from the mediæval insistence on the Rationality of God, conceived as with the personal energy of *Jehovah*, and with the rationality of a Greek philosopher. Every detail was supervised and ordered: the search into nature could only result in the 'validation of the faith in rationality'." Contrast this with Asia, where science did not flourish, for any definite event "might be due to the fiat of an irrational despot, or might issue from some impersonal inscrutable origin of things." Thus is even science founded on instinctive faith, although besides this it requires something more, and this is where it differs from religion, namely an active interest in brute facts for their own sake. So although

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we may pass over the Middle Ages as far as their actual contributions to science are concerned (with the exception of an advance in mathematics), we must remember the unconscious assumption of the rational order of nature which gradually pervaded the mind of Western Europe.

By the sixteenth century we come to the dawn of modern science. Roger Bacon, Copernicus, Versalius, Tycho Brahe, Francis Bacon, and Galileo all introduced an era of patient observation and experiment. Galileo constructed the telescope and observed the phases of Venus, and thus disproved the geocentric theory, and further showed that a new star had suddenly appeared in Aristotle's changeless heavens. Kepler showed that the planets move in elliptical, and not circular, orbits, a conclusion to which he came with some reluctance, as he considered that the *anima mundi* or spirits which kept the planets in their orbits would have more difficulty in calculating their correct position than they would in the case of circular orbits. The first to propound a unitary theory of the universe which became generally accepted was Descartes, but from the point of view of the rise of physics, the fundamental thing that Descartes did (in 1637) was to perfect co-ordinate geometry. He emancipated geometry, to use Spengler's own words: 'from servitude to optically realizable constructions and to measured and measurable lines generally. With that, the analysis of the infinite became a fact.

In place of the sensuous element of concrete lines and planes—the specific character of the Classical feeling of bounds—there emerged the abstract, spatial, un-Classical element of the *point* which from then on was regarded as a group of co-ordered pure numbers. The idea of magnitude and of perceivable dimension derived from Classical texts and Arabian traditions was destroyed and replaced by that of variable relation values between positions in space. It is not in general realized that this amounted to the supersession of geometry which thenceforward enjoyed only a fictitious existence behind a façade of Classical tradition. And this replacement of length by positions carries with it a purely spatial, and no longer a material conception of extension."

Newton and Leibniz, although both of them very pious men, laid the foundations of scientific materialism. Newton clothed Galileo's idea of 'force' in mathematical form, just as at a later time Maxwell expressed Faraday's idea of electric and magnetic 'tension in the medium' in the form of equations. Newton's theory is simple mathematically, and one of its main differences from modern theories, as Bertrand Russell says, is its belief that nature is convenient for the mathematician and requires little manipulation before his concepts become applicable. Newton held that there is

* Oswald Spengler, *The Decline of the West* vol. i

an absolute space composed of points and an absolute time composed of instants. Matter consisted of indestructible particles which occupied a point at each instant, and these particles attracted one another according to the famous inverse square law. This force of attraction produced acceleration and this was inversely proportional to an invariable quantity which Newton called the 'mass' of the particle or body. Making these assumptions the laws of physics could be expressed by equations giving the forces exerted by particles on one another, by analogy with the law of gravitation. Thus Newton, as well as using the fundamental conceptions of length, time and mass introduces into modern thought the idea of 'force'. To the Classical mind things moved in the void of themselves or by accident, but to Newton they appeared to need something to move them, and so 'force' was invoked as a motive power.

This was a fundamental change in outlook, and profoundly affected the course of future human thought, just as the theory of evolution did at a later date. For there is a tendency for all human thought to be limited by the fact that certain ideas appear 'natural,' and 'obvious to common sense,' and unfortunately history shows that these ideas change, and what appears obvious at one time may appear anything but obvious at another. Thus a state of rest appears to us natural, but the varying motions of bodies must be caused by something and so we invent for the purpose 'forces'. But to the Classical mind motion was also natural and bodies just moved of themselves—nothing was needed to *make* them move. This change of view was, of course, due to the results of experiment—to Galileo, who showed that moving bodies obey laws. For it is well known that primitive minds used to project their internal world into the external world, and made bodies the possessors of spirits which might be 'good' or 'evil'. This projection of personal feelings and 'will' into bodies survived up to the time of Galileo, but when he proceeded to demonstrate in the famous experiment of dropping bodies from the leaning tower of Pisa, that heavy bodies fell no faster than light bodies, & c. they did not evince any special desire to "seek their natural places" below light ones, then their spirit left them, and when this vital source had gone, its place was taken by the cold, inhuman, deterministic, Newtonian 'force'. It is curious that this change of outlook which made the Classical 'natural' motion appear to us to need active forces had just the opposite effect in another sphere of human speculation, for, as Lévy-Bruhl has shown, in nearly all primitive societies death is not considered to occur naturally, but is always due to the active ill will of other people or spirits. So that in this case it is we who look upon the phenomenon of death as (in many cases) quite natural, and the primitive man who requires an active 'force'.

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The reason why this period of science was so successful was that men at last broke away from the traditional authority of Aristotle, and following the method advocated by that most remarkable Somerset friar, Roger Bacon, started to investigate the world experimentally. That is to say they concentrated on discovering facts, and placed theories in a subordinate position.

The repeated insistence on verification by experience which first appears in Roger Bacon's works entitles him to be considered as the man who, above all others, has liberated human thought from superstition and made possible the immense increase in our power over animate and inanimate nature.

In the eighteenth century, called by Lord Morley the scientific Renaissance, the advance made in development of former ideas was very great, but nothing fundamentally new was added. Lavoisier, by ceaseless use of the balance, proved that no material is lost or gained in any chemical transformation, and so started chemistry on a really sure foundation. So successful was the mechanical explanation of this century, that eminent mathematicians like Laplace conceived a mind that could foretell the progress of nature for all eternity, if only the masses, their positions and initial velocities, were given. This idea that all processes of nature can ultimately be expressed in terms of mechanics gradually became a creed of science.

Perhaps the most important advance of this century was due to Lagrange, when he showed that dynamical truths could be expressed in a manner that was absolutely independent of the particular methods of measurement used in determining the positions of the various parts of a given system. This advance was due chiefly to a theorem of Maupertuis's, called the Principle of Least Action, which refers to the fact that when a body changes its position, it moves in such a way that a quantity called 'action' has a minimum value. The way in which Maupertuis arrived at this principle is rather interesting. He felt sure that the path chosen by a body during any definite interval of time must be such as to show forth the glory of God, and therefore he looked for something about it that was a maximum or a minimum and not just any quantity. This illustrates Professor Whitehead's thesis about the influence of the idea of a rational God, and also shows, as he says, "that almost any idea which jogs you out of your current abstractions may be better than nothing."

The nineteenth century saw several important new conceptions added to physical science. The first was that of atomicity, an idea as old as Democritus, but never securely incorporated into science until it was re-emphasized by John Dalton. This was used by his pupil Joule to establish the foundations of the Kinetic Theory of

Gases, which accounts for the pressure of a gas by supposing that it is due to an immense number of impacts caused by atoms in rapid random motion. Joule also made experiments on the equivalence of heat and work, and thus led, together with work by Mayer and Helmholtz, to the general idea of the Conservation of Energy, the most fundamental principle of science. Another important conception was that of a field of activity—magnetic field, electric field, gravitational field—force pervading all space without the presence of matter. This idea had occurred before, but was not really developed until the necessity for an ether arose. Newton had thought that light consisted of material particles, but finally the work of Young and Fresnel caused the general acceptance of Huygen's undulatory theory. Something was therefore required to undulate, and an ether was invented *ad hoc*, a sort of all-pervading subtle material. Then Clerk Maxwell showed that electric and magnetic phenomena required that there should be electromagnetic disturbances in space, and that light consisted of such disturbances. This was a great simplification just such as science desires, but it put the ether in an awkward position, for whereas formerly a fairly straightforward simple type of elastic ether sufficed to account for light, the proof that light was electromagnetic in nature necessitated another which would transmit electromagnetic vibrations. As Mr. Bertrand Russell says: "No one knew whether it was a jelly or a gas—like a painfully good boy, it only did what it was told, and might therefore be expected to die young."

Towards the middle of the nineteenth century we have the final triumph of materialism. Adams, and Leverrier independently, predicted as a result of immense calculation, that if astronomers directed their telescopes towards a certain portion of the sky at a certain time they would see a new planet—and Neptune was discovered. Clerk Maxwell as a result of calculation predicted that there should be such things as wireless waves. Hertz put up the apparatus, and wireless was born. Lord Kelvin further showed that matter consisted of vortices in the ether, so that, granted the ether with certain properties and obeying certain laws, all the material phenomena, including radiations, in the world could be regarded as changes in it. He maintained that the only satisfactory explanation of the phenomena of nature was that which led back ultimately in the last analysis to motion in a continuous incompressible fluid—the ether.

What then caused the break up of this wonderful system in the twentieth century? The main causes were (1) the discovery of the phenomena of radioactivity and of the discharge of electricity through gases, which showed that matter was electrical in nature,

* Bertrand Russell, *The Analysis of Matter*

and that mass varies with velocity, (2) the quantum phenomena, and (3) the Michelson-Morley experiment, which proved that light appears to travel with the same velocity whatever the velocity of the observer, and which led to the theory of relativity

The first led to the modern theory of the atom, which briefly is this: an atom consists of a central positively charged nucleus, which contains the main mass, and is surrounded by negative electrons which describe certain definite orbits. The emission of radiation which is the only thing we really see, is caused by the sudden jumping of an electron from one orbit to another, but when such a jump will take place, and in what atom, we cannot tell, so that within certain limits atoms may be possessed of free will. So matter begins to turn into electricity. But what is electricity? This is perhaps best explained by the story attributed to Lord Kelvin. He was examining students in physics, and just out of interest he asked one of them, 'Now, my good man, what is electricity?' The student scratched his head, looked very embarrassed, and finally said 'Well, sir, you may not believe me, but last night I knew all about it, and now, of course, it has gone clean out of my head!' So Kelvin called all the other students into the room, and pointing to the poor unfortunate student said "Look! there is the only man in the world who has ever known what electricity is, and he has forgotten!"

To the quantum phenomena must be given the premier place in the puzzles of physics to-day. The nature of the problems produced may be understood by considering the surface of a lake on which a large number of buoys are floating. If we take one of the buoys and drop it from a height of, say, ten feet into the water, waves will travel outwards in circles. Buoys near the centre of the spreading circles of waves will bob up and down vigorously, those further off bob up and down with a smaller amplitude. All buoys at an equal distance from the centre vibrate with an equal amplitude, that is to say, the energy spreads out uniformly from the centre of disturbance. This is the famous wave theory of light (when the two dimensional surface of the lake is translated into a three-dimensional ether, and atoms take the place of buoys) and it accounted beautifully for all the known manifestations of radiant energy until the quantum phenomena appeared. These phenomena correspond to something like this in the above illustration: the buoy is dropped as before from the height of ten feet but instead of spreading waves, suddenly one of the other buoys—it may be a near one or one far off distance makes no difference—jumps out of the water to a height of exactly ten feet. In other words, *all* the energy of one buoy has been transmitted to the other without any of the other buoys getting anything. The interval which elapses is the same as if the distance

had been traversed with the ordinary wave velocity. It looks as if energy travelled in definite bundles or quanta like torpedoes. A greater contradiction than that between waves spreading in all directions getting weaker and weaker, and torpedoes going in one direction and retaining their energy constant, it would be hard to imagine.

This conflict between the wave and the torpedo theory has produced a new theory of matter in the last two years. In this the authors concentrate attention on the things we actually see, such as the frequency of the radiation emitted, and all suggestions as to the structure of the atom are left out. Although this is perhaps philosophically preferable, it is doubtful whether a mechanical model of some sort is not vital to further fruitful research. Lord Kelvin, for instance, could not consider a theory that could not be expressed as a mechanical model.

And lastly Einstein has shown that absolute space and time can no longer be considered to exist, but only a fusion of the two called space-time, in which one man's space may be another man's time. Gravitation turns out to be a property of space-time. Weyl, and more recently Einstein himself, have gone farther, and proved that by extensions of the theory, electromagnetic phenomena can also be considered as an intrinsic property of the space-time continuum. So far this constitutes the greatest triumph of the human mind in ordering the apparent immense complexity of the external world.

Now in summing up the progress of physics in the past, what can be said of this progress in general? There are two obvious things which, at bottom, are really one. Firstly, physics is becoming more and more abstract. With the advance in mathematics physics is getting farther and farther away from the common sense view of things. The naïve faith of the Newtonians that nature was simple and amenable to easy calculations has gone, and nowadays it can only be described by abstruse mathematical formulæ and by concepts barely expressible in words.

Then secondly, it may be said that the progress in physics consists of a progressive pushing of visible, tangible, ponderable bodies into an invisible, intangible, and imponderable space. So far, in fact, has this process gone that the problem of establishing any connection between physics and sensuous perception, upon which it is of course founded, has become one of very great difficulty.* Remember how, to the early civilizations of Egypt, Babylon, and Greece, what one could see and feel was real, and in between these was the Greek 'void'—nothing. To the Greeks form was the essence of corporeal existence, even fire was a substance, because it could be vividly seen, and the sky was a material dome. Classical statues had no

* Cf. Bertrand Russell *The Analysis of Matter*

pupils in their eyes, for these show 'depth' and not form. What Spengler calls the 'depth feeling' did not occur until much later, and showed itself in perspective drawing, in the Rembrandt portrait (where form fades into the dark brown 'depth' of time), and in the Turner sunsets (the misty diffuseness of which suggest depth in space), and in many other forms. This is really just what we should expect from the theory of evolution, we should expect that primitive minds would fix on the things that are obvious as being the only real things.

Gradually, however, people began to look for something deeper behind the changing flux of material appearances. The Arabian scientists who started alchemy looked for an essence, something not material nor just a property, but something that underlay the coloured existence of metals, and could transmute them one into another. Here was the beginning of abstraction in physics. The Middle Ages spent most of its time hunting for the Elixir of Life and the Philosopher's Stone that would turn base metals into gold. Then following Newton, atoms were thought to be miniature billiard balls, and heat was a fluid substance, until gradually was forced upon us the necessity for an ether. Something filling all space which could hold energy, another obscure conception of the Western mind, something we cannot see or feel, but something which bodies possess. A weight lifted to a height possesses potential energy in virtue of which it can make, say, a clock work while returning to its former position, but you can see no difference in the weight except that it has changed its position in space, and so potential energy becomes associated with position in space, and came to be regarded as a function of position in space, and no longer an attribute of the body. Then matter was thought to consist of vortices in the ether, and light and wireless waves were periodic distortions in this long suffering 'substance', and finally Einstein and Weyl have shown that even the ether which had some material properties, although no one knew quite what, is not necessary, and have proved that all the phenomena of the material universe can be looked upon as due to the properties of pure space, or rather, by the metrical properties of a four dimensional continuum in which time and space no longer retain an independent existence. The Classical optically bounded tangible bodies have gone, and their 'void' or nothing has become the seat of our space or everything. Everything that was formerly thought most real has now been bundled ignominiously into a space time continuum, whose only properties are metrical relations consisting of groups of numbers called tensors obeying certain transformation rules.

This then briefly represents the progress of physical theory in the past. What can be said about the future?

Spengler in that most profound and comprehensive book *The Decline of the West* suggests that our Western European concepts of force and energy have now been scientifically exhausted, and that no further real progress will be made along these lines "If we observe how rapidly card houses of hypothesis are run up nowadays, every contradiction being immediately covered up by a new hurried hypothesis, if we reflect on how little heed is paid to the fact that these images contradict one another and the 'classical' Baroque mechanics alike, we cannot but realize that *the great style of ideation is at an end*, and that, as in architecture and the arts of form, a sort of craft art of hypothesis building has taken its place. Only our extreme maestra in experimental technique—true child of its century—hides the collapse of the symbolism." Again, after discussing Entropy and Probability, he says "Evidently the significance of this has passed unnoticed. Statistics belong, like chronology, to the domain of the organic, to fluctuating Life, to Destiny, and Incident, and not to the world of laws and timeless causality. As everyone knows, statistics serve above all to characterize political and economic, that is, historical, developments. In the 'classical' mechanics of Galileo and Newton there would have been no room for them. And if, now, suddenly the contents of that field are supposed to be understood, and understandable only statistically and under the aspect of Probability—instead of under that of the *a priori* exactitude which the Baroque thinkers unanimously demanded—what does it mean? It means that the object of understanding is ourselves. The Nature 'known' in this wise is the Nature that we know by way of living experience, that we live in ourselves. Irreversibility in world processes is the expression, no longer of the physical 't,' but of genuine *historical*, inwardly experienced Time, which is identical with Destiny."

An attempt to supersede the reversible physical 't' by adopting the idea that past, present, and future are terms employing reference to a specific standpoint has recently been made by Professor Whitehead in his well known book *Science and the Modern World*. He maintains that we have been misled by what he calls the 'misplaced concreteness' of the mechanist theory, we have looked upon nature as a series of changing configurations of matter, and have assumed that in defining these configurations at any time there is no need for any inherent reference to any other times past or future. This involves the view that the state of nature at any one period is not inherently dependent on its state at any other period, and consequently our faith in the order of nature which is made use of every day by man and the higher animals is not based on anything observable in nature itself. This view, which no one really believed, led inevitably to the dualism of mind and matter. White-

head says that what we regard as concretes in nature must have the character associated with the idea of *organism*, and not that of unchangeable material elements, i.e. they must be structures whose constituents are modified in nature and behaviour in accordance with the pattern of the whole to which they belong.

The realization that all that physics can tell us about the world is its *structure*, and not its ultimate nature, is now a commonplace. That is to say, we can describe *how* things happen, but not *why* they happen. Perhaps this latter question has always been anthropomorphic and meaningless. Eddington, for instance says: "We do not regard matter as a foreign agent which by some speculative machinery disturbs in an invariable way the world structure and so produces mechanical and other effects. The disturbance of world structure is itself the matter, for the physicist cannot get behind structure. There is no object in postulating a particle *in addition*, like a monument set up to mark the scene of disturbance and still less in speculating as to how the monument can account for the disturbance."

Thus we are forced finally to admit that our knowledge of the ultimate nature of the world is no better than that which we should have of the paper roll in a pianola piano, if we could do no more than listen to the music which it produced.

And so now at long last our old friend the spade comes into his own again. He has suffered many indignities, lately they have been heaped upon him. Some have likened his condition to that of the interior of a sort of licensed billiard hall—where the licensee has got the better of the billiards—a ceaseless random oscillation of hard inelastic spheres, some have accused him of being a congregation of vortices in a rather doubtful jelly, by others he has been dubbed a mere tangle of world lines in a four dimensional non euclidean continuum, and lately it has been more than hinted that his real nature consists of singularities in ψ waves, which is a rude way of saying that he is an infinite rectangle of integers. But he has survived it all, and now, in the cool of the evening, he enjoys the respect to which he is entitled, for he knows that, without fear of contradiction, and with as much emphasis as is fitting, he may be called—a spade. The dogs bark . . . the caravan passes.

* *Journal of Philosophical Studies*, January, 1928

SCIENCE AND ABSTRACTION

PROFESSOR L. J. RUSSELL

I

It is not only in science that abstraction is found as a method of dealing with the world, and we may profitably begin by showing its wide use in ordinary practical life

Anthropologists have pointed out that there is a notable difference between primitive and advanced languages in respect of concreteness. A word in a primitive language carries with it reference to a great deal of concrete detail which a word in a more advanced language leaves aside. As Mr. Marett puts it, a primitive man "compounds impressions" rather than 'exchanges ideas'. "For instance," he goes on "I-cut-bear's-leg-at-the joint with a-flint-now corresponds fairly well with the total impression produced by the particular act, though, even so, I have doubtless selectively reduced the notion to something I can comfortably take in, by leaving out a lot of unnecessary detail—for instance, that I was hungry, in a hurry, doing it for the benefit of others as well as myself, and so on. Well, American languages of the ruder sort, by running a great number of sounds or syllables together, manage to utter a portmanteau word—'holo-phrase' is the technical name for it—into which is packed away enough suggestions to reproduce the situation in all its detail, the cutting, the fact that I did it, the object, the instrument, the time of the cutting, and who knows what besides".¹ Thus primitive man has a great variety of words, on account of his difficulty in isolating the common meaning, and fixing it by a common term. . . . You can express twenty different kinds of cutting, but you simply cannot say 'cut' at all".²

More advanced man builds up his new situation by means of abstractions. 'I cut bear's leg at the joint with a flint now' is a modern highly abstract, highly synthetic method of presenting a relatively concrete situation. Nor is the modern method less successful than the primitive. If it does not succeed in presenting the concrete situation in its entirety, neither does the primitive word, which has its own degree of abstractness, and the more synthetic method "cuts the situation at the joints," and makes for clearer comprehension.

¹ R. R. Marett *Anthropology* p. 139 (Home University Library)

² *Ibid.*, p. 141

SCIENCE AND ABSTRACTION

Language, then, as it develops, encourages and organizes abstraction. The concrete comes to be viewed in the light of the general and abstract. Qualities such as square, red, smooth, acts such as hit, cut, bite, things such as chair, house, tree, relations such as before, under and so on, become the handrails which we use in moving about among events, and condition not merely our expression of what we experience, but also the mode in which we experience. In ordinary life we see an oblong brown table simply as oblong and as brown, neglecting the varieties of apparent colour and shape which the painter expresses in his picture. We even tend to insist that the artist should paint in such a way as to facilitate our recognition of the features in his picture in the ways habitual to us, forgetting that it is part of his work to prepare the way for alternative and in some respects more fruitful modes of analysis. But the fact that it is possible to allow language and the practical purposes of life, to stereotype our modes of perception should not make us conclude that these modes are false. They are misleading only if taken as the sole possible.

So far, it is clear, ordinary experience does not content itself with the concrete situation in its entire concreteness. It selects or emphasizes certain features or aspects of the situation, neglecting many variations and details, or relegating them to a place of minor importance. Judgments embody these selections and emphases. In such a judgment, *e.g.* as we make at the hatter's, as that this hat is too heavy, or not dark enough in colour, or too expensive, our purpose is not complete characterization. Our object is to stress certain features of the hat, leaving the remainder in the background. And the salesman, if we have impressed him in the proper way, brings us a lighter or a cheaper hat, according to our statement.

If to separate a feature of a situation from other features, and to stress it, leaving other features aside or in the background, constitutes abstraction, then every judgment is abstract. Judgment is indeed the act by which we isolate certain features and consider them separately. This isolation is conditioned by a purpose, which even when primarily practical always contains an intellectual element, and thus we can speak of judgment as the instrument by which we make an intellectually relevant isolation of certain characteristics from others within a situation, while preserving their connection with the situation as a whole.

This exemplifies the kind of abstraction we are always trying to make in practical life.

As another example of the need for passing away from the concrete, taken in all its concreteness, we may consider the search for causes.

In ordinary life, the search for a cause is induced by some unusual or desirable or undesirable event, and the object of the search is to enable us to light upon some condition or conditions which can be controlled, so that the situation can be altered, or upon some condition whose presence was unusual and which led (the remaining circumstances being usual) to the pleasant, unpleasant or unusual event, so that responsibility can be fixed, and praise or blame bestowed.

It is clear that there is here no attempt to discover the whole of the conditions under which the event was what it was. The chimney smokes: practical life is satisfied to discover a defective chimney pot as the cause. This it may be insisted is clearly not the cause in any complete sense. With a different wind, or a differently shaped grate, or with different coal, the chimney would not smoke, nor would it smoke if the law of expansion of gases were different, and so on. For a complete account of conditions it would be necessary theoretically to introduce all the conditions bearing on the smoking chimney. Indeed—so runs the commonplace criticism of the notion of cause—for the complete account of the conditions of the chimney smoking on this occasion, it would be necessary to introduce the whole state of the universe at a time just preceding the smoking chimney, and when we had done this we should be explaining, not only the smoking of the chimney, but the whole state of the universe at the time of the smoking chimney. But it is evident that merely to link the entire state of the universe at one moment with the entire state of the universe at a later moment is to lose the notion of cause altogether. And it is worth while asking whether the ideal of theoretical completeness is sound.

What we need, if the idea of causation is to withstand criticism, is something more than the practically useful account of practical life and something less than the theoretically useless account of a theory animated by the ideal of completeness. We do not want to be compelled to refer to the whole state of the universe. We want to be able to leave the major part of the universe in the background and to say that (within limits which we can justifiably leave unspecified) so long as certain specified conditions are present, then, no matter what else is happening in the universe, certain specified results will follow.

If we are to be able to do this we must omit reference to much in any particular concrete situation. Thus coal burns in this grate in a way different from the way in which any other piece of coal would burn, and to describe the complete conditions in which it does so would involve a statement of the complete nature of this

piece of coal and of its concrete environment. But the greatest part of this description would be irrelevant to any purpose both in this case and in any other case. We want accounts which apply to other pieces of coal of the same general type. In other words, our account to be useful for whatever purpose, must be general. *E.g.*, we speak of "anthracite coal" or of coal, we neglect the actual shape of the flames it gives rise to, and speak only of it as burning. Coming closer to the elements in the situation we want, we may indicate the typical chemical constituents of the type of coal we desire to refer to, and describe the conditions under which it combines with oxygen at a certain rate. Our statement is, then, to some such effect as that a chemical compound of such and such a sort combines with oxygen at such a rate under such conditions. And we mean this to be a general description which holds good wherever these conditions are to be found, whatever other detailed features of the situation are present. Iron expands when it is heated, whether the iron is painted red or green, whether it is on a professor's laboratory bench at nine o'clock in the morning or a part of a gas stove at six in the evening, and so on. It expands when heated, whether the scenery around is beautiful or ugly, whether the sun is in Capricorn or in Pisces, whether battles are being fought or treaties of peace are being signed in its neighbourhood. If we want to be more precise, we shall have to introduce more conditions. But if we are to make a causal statement, we shall be compelled to omit the bulk of the concrete circumstances of the case. We want complete conditions only in the sense that we want to state those circumstances that are relevant to the selected features of the occurrence on which we are laying stress. And the principle of causality that we make use of in our investigations simply states that this can be done. It states, that is, that there are sets of general conditions to be discovered, of such a sort that in their presence certain general results will follow, whatever may be the additional detailed circumstances of any particular case. It does not say that any features we may care to select have conditions which can be isolated from the other features along with which they occur in any particular case. It does say that there are such isolable features. It leaves us to discover what they are.

The principle of causality, then, like the judgment, is an instrument enabling us to isolate certain features from concrete situations, and to link them relevantly with other preceding or succeeding features. Isolation and linkage are the connected sides of the activity to which it leads.

Thus here again, if isolation of features, with neglect of much detail, is abstraction, all causal statements are abstract. But since the statements are explicitly general, and are not meant to cover all the detail of any particular case, it is not at all self-evident that

abstraction involves falsification, or means making statements about what does not occur

III

There is a view which holds not only that all judgment is abstract, but that all judgment is false, because all judgment claims to give a complete characterization of its subject, and never can make this claim good. But it does not seem to be true that a judgment claims to give a complete characterization of its subject. When I judge that this horse is white, I am not endeavouring to characterize the horse completely. I am noting a feature of the horse which has some relevance for me in my situation. And since I am not specifying the degree of whiteness in the colour of the horse, I think I am entitled to say that I am not endeavouring to characterize completely even the colour of the horse. And I do not see why I should be told that if I am to use judgment at all I must either make my characterizations complete, or be condemned to falsehood. What I am endeavouring to do is to make my characterization relevant—relevant both to the facts about the horse and to my purposes in relation to the horse. My statement, when I say that the horse is white, is about the horse and not about my purposes; but if my purposes only require information of a general kind about the colour of the horse, then the statement gives this. And if it be said that it is impossible for a particular horse to be white, because it must be a particular shade of white, I should reply that I am unconvinced by the attempt to make particulars so particular that all statements referring to them in general terms are false. Indeed, I should take it as more certain that this horse and that horse, each with its own particular shade of whiteness, is white, than it is that particular shades of whiteness are so particular as to make it impossible for them truly to be described as white. However we are to interpret the situation (and interpretations differ), no particular interpretation seems to me as convincing as the view that we can use general terms about particular situations, and use them without falsification.

All assertions, then, appear to me to involve the selection and isolation of general features from the mass of concrete detail which makes up a particular situation, and to involve the linkage of these general features with the situation, or with other general features of the situation, in ways which are relevant both to the situation and to our purposes in relation to it. If this be abstraction then all assertions are abstract. But I should demur to the view that all assertions are in principle false.*

* Cf. N. Kemp Smith, 'The Fruitfulness of the Abstract' *Proc. Arist. Soc.* 1927-8

Let us look at a further way in which we use abstraction—still in the general sense of isolating certain characteristics from others—in practical life, and at some of the dangers of such abstraction. This will enable us to realize the way in which abstraction, without itself being falsification, can lead to error.

Consider the problem of choosing a new carpet for a particular room. Obviously the most complete method, if flesh and spirit could stand it, would be to try hundreds of carpets of varying colour, size, and texture, in the actual room, placing the furniture etc., in the room in its proper position, each time a carpet was laid. Even in such a case there would in practice be a selection from the numerous carpets held in stock by the merchant. He would exclude all those carpets which were too large to fit the room. Now to do this without any act of abstraction would involve sending them all to the actual room, and trying them *in situ*—an unnecessary and clumsy process. For this preliminary selection it is sufficient to treat the room as if it were a mere floor surface. Now an indirect method of doing this, but one more concrete than the method actually followed in practice, would be to make a sheet of paper, or of thin cloth, just large enough to fit over the whole floor, and take it to the carpet warehouse, instead of bringing all the carpets to the floor. Any carpet which was larger than this sheet would be too large for the room. The sheet would here serve in place of the room, for this preliminary purpose. A more abstract method still merely takes the measurements of the sides of the room in terms of some conventional unit, such as a foot or a metre—these measurements stand for, or represent, or characterize the room, for the purpose of determining what carpets are to be sent for inspection.

But in practice still further preliminary selections may be made. The general scheme of decoration of the room, the colour of the walls, of the furniture, etc., are relevant to the final choice of a carpet. And they may be utilized in a preliminary way, without bringing carpets to the room. Samples of the various materials used in the decoration of the room—of the covering of the furniture, of the wall hangings, etc., may be used to do duty for the decorated room itself, and so may be taken to the carpet warehouse, and used to exclude any carpets whose colour is out of harmony with them. Such samples stand for or represent or characterize the room in certain respects, just as measurements do. They are, of course, dangerous representatives, as anyone knows who has chosen a wall paper or a cloth for a suit from a small pattern in a book. The small pattern represents the large piece in certain respects, and represents it truly in these respects, it is dangerous because of our

inability to keep distinct those respects in which it is a true representative from those respects in which it is not

All this is typical of our practical activities. Whenever we use a measurement, or a sample, in place of an actual thing, we are taking certain characteristics of the thing in isolation from the remaining characteristics, and so long as we are aware of what we are doing, our action is valuable. It is only when we take these characteristics to represent the thing in its entirety that our act of isolation becomes dangerous.

I have taken the example of choice of a carpet because it seems to bring out, in a familiar case, the importance of isolation of characteristics as well as its danger. To be compelled always to deal with an entire situation in its entirety would make action impossible. The tailor, to take an instance which will bring the matter even more home to the ordinary mortal, must for a part of the time replace his client by a mere set of measurements. It would be intolerable to have to stand while the tailor hung his lengths of cloth on one's body, as a seamstress hangs coverings on a chair, and snipped them and pinned them until they were a good fit. It would also, I suppose the tailor would add, result in an ill fitting suit. It would, at any rate, be intolerable. That is the value of isolation.

But of course measurements are not a room, nor are they a man. And carpet and suit alike may be a good 'fit' from the point of view of measurement, and not from any other point of view. That is the danger of isolation.

Isolation of characteristics from the full concrete circumstances, and treatment of them as if they represented the full circumstances in certain respects, is then both useful and dangerous. It is a further instance of what I understand by abstraction, and we are now in a position to consider more closely the question of the place of abstraction in science.

V

The scientist makes acts of characterization of the same kind as those made by the ordinary man, but under more stringent conditions. The characterizations of ordinary life need not be more precise than the exigencies of practical activity require. The characterizations of science must be sufficiently precise to meet certain additional demands of the mind in the quest of truth. Careful measurement is one aid to this. A determination of the detailed conditions under which events have a certain set of characteristics, by a deliberate attempt to produce these characteristics in various ways, is another aid. The formulation of general laws relating to hypothetical entities and the endeavour to express the characteristics of selected types of event in terms of these general laws, is another. But none of these

aids are ends in themselves. They are all means to the more accurate characterization of events. The whole process begins with events in their full concreteness and isolates certain features from the rest in order to determine them more accurately; it may next pass away from events altogether to considerations which can be described as purely ideal but in the end it passes back to the features which it began by isolating determined with greater accuracy as the result of the temporary excursion away from their neighbourhood.

We may illustrate the point by an example. Professor Eddington gives a charming account of the experienced examinee solving a problem relating to an elephant sliding down a grassy hillside.¹ The examinee pays no attention to the elephant or to the grassy slope. He notes merely the mass of the elephant, the slope of the hill, and the coefficient of friction. Now all these things are in the end expressions of what Mr. Eddington calls pointer readings. "Two tons" is just "the reading of the pointer when the elephant was placed on a weighing machine." The slope of the hill, 60 degrees, is just "the reading of a plumb-line against the divisions of a protractor." "And so," says Professor Eddington, "the poetry fades out of the problem, and by the time the serious application of exact science begins we are left with only pointer readings." And all we get in the end is the same kind of thing. "The question presumably was to find the time of descent of the elephant, and the answer is a pointer reading on the seconds dial of our watch."

Thus, he concludes, "the whole subject matter of exact science consists of pointer readings and similar indications."

But our conclusion would be a little different. The process begins with the elephant sliding down the grassy slope; it isolates certain aspects of this process, viz. those connected with the time of descent. In order to determine this more accurately, the inquirer passes away from elephant and hill, replacing them by a vastly simplified situation, without trumpetings or wriggings or tearings away of grass, containing only a mass and a frictional slope. But the process does not end there. Having determined the further relevant characteristics of this simplified situation, he next passes back to the concrete situation containing the elephant, and attributes to it the characteristics that he has determined the simplified situation to have, just in the same way as, in our previous illustration, the tailor having for a time made a set of measurements do duty for his client, does in the end try the clothes on his actual client. Professor Eddington is taking only one half of the scientist's whole process—the half which leads to pointer readings, he leaves aside the second half, that which leads from pointer readings back to the concrete. But the second half belongs to the process just as much as the first.

¹ *The Nature of the Physical World* p. 251 f.

VI

We have here our second sense of the word abstraction, in the special form in which it is used by science. When an actual concrete situation is passed away from in its entirety, and replaced in its entirety by a simplified situation which contains nothing more than certain elements which are defined by the investigator to suit his own purposes, then we are abstracting in the way characteristic of science. In the old sense in which all predication involves abstraction we remained in the concrete situation, merely isolating, for separate treatment certain features of it, while still maintaining the connection between these features and the situation as a whole. In this new sense we are no longer dealing with the concrete situation at all but with what we take to be a model of it for our purposes. We do not, however, neglect the concrete situation. We construct a new situation which we take to be a model of the concrete situation, and thus our model is only tentative and hypothetical until it succeeds in justifying itself by giving us results which can be discovered in the concrete situation by experimental processes. If the tailor, cutting his cloth in accordance with his measurements always produced an ill fitting suit of clothes, he would conclude that his system of working up his measurements was faulty, and would change it. Similarly, if the scientist, making an abstract system do duty for the concrete situation, obtained results which could not be applied to the concrete situation, he would conclude that his abstract system was faulty, and would change it. The scientist is not concerned merely with pointer readings. That is only one half of the truth. He is endeavouring to characterize the concrete situation by a round about process which involves, firstly, the hypothetical replacing of the concrete situation by a vastly simplified model, secondly, the characterizing of this model, thirdly, the reading of the concrete situation in terms of the characterization of the model, and fourthly and finally, the testing of the accuracy of the model by verifying in direct experience, wherever possible, the reading of the concrete situation thus arrived at. His abstract model, then, is a valuable instrument for the characterization of the concrete situation. It is dangerous only if it tempts the user to use it to characterize the situation in ways beyond those for which it is relevant.

This kind of abstraction in science, then, which consists in temporarily replacing the concrete situation by a simplified model, somewhat in the same way as the tailor temporarily replaces his client by a set of measurements, is an essential stage in the activity of characterizing the concrete situation. It has its value and its

* Cf. Miss L. S. Stebbing *Abstraction and Science* * *Journal of Philosophical Studies* January 1927

dangers Its value is that only by such a process can the concrete situation be characterized in the respects in which the scientist wishes to characterize it Its dangers are essentially due to the possibility of neglecting other features of the situation, which make the scientist's characterization either only approximate, or misleading for purposes beyond those of scientific characterization The former danger is relatively harmless, as it is foreseen and provided against by the scientist himself, the latter danger is of great importance, and is often neglected The physiologist (*e g*) who takes the study of the physiological conditions of an emotion as a complete account of the emotion, or as an account of all there is of importance to say about the emotion, seems to me to be like the carpet salesman who should insist that because a carpet is the right size for a room therefore it is the right carpet for the room His statement that the carpet is the right size for the room may be true; so may be the statements about the physiological conditions of the emotion Each is a characterization of a situation in a certain aspect. But there is more in the situation than this aspect. And to neglect this more is to lead oneself on to a false characterization

VII

Our account of abstraction has been based on the view that all characterization, whether for practical purposes in ordinary life or for theoretical purposes in science, involves the relative isolation of certain features from a concrete situation, and the characterization of the situation in respect of these features; and that the effective carrying out of this task involves a further sort of abstraction, viz the temporary replacing of the concrete situation by a simplified model which represents the situation in certain respects. Neither sort can be dispensed with; each has its dangers But neither sort involves falsification, nor need it lead to falsification.

(To be continued.)

PHILOSOPHICAL SURVEY

PHILOSOPHY IN FRANCE

It is an excellent custom of the Professors of the University of Paris to deliver, in addition to their regular *cours réservés, préparations, explications*, etc., courses of public lectures in which they disclose the results of their own researches. These courses are lengthy, often lasting throughout the whole academic year, and are given at such centres as the Sorbonne, the Collège de France, the Ecole des Hautes Etudes, and the Ecole Normale. They are not popular introductions, *imitations*, but discussions of an advanced character, usually the outcome of a long reconsideration or re-evaluation of their subject in the light of fresh evidence or new hypothesis. Such work is not of ephemeral worth nor merely stimulating. Consequently it is not permitted to pass with the spoken word, but is preserved in print. For this purpose there are two media: the *Revue des Cours et Conférences*, in which instalments of several courses appear serially, and the *Bibliothèque des Cours et Conférences*, a collection of volumes each reporting a single complete course. Both are published by Bovin et Cie, 5 Rue Palatine, Paris, at modest prices.

The public courses offered by the University of Paris this year include the following of philosophical interest. *The Methodology of the Moral Sciences*, by PROFESSOR A. LALANDE, *Self-Consciousness*, by PROFESSOR L. BRUNSCHVIG, *The Philosophy of Leibniz*, by PROFESSOR A. RIVAUD, *Science and its philosophical evolution, from the Pythagoreans to Aristotle*, by PROFESSOR A. REY, *Will and Personality*, by PROFESSOR H. DELACROIX, *Primitive Forms of Intelligence*, *The Problem of the External Existent in Idealist Perspective*, and *Disciplines and Criteria of Intuitive Thought*, by PROFESSOR E. LE ROY, *Theory of Knowledge in St. Augustine and his school*, *Philosophical Doctrines of the Early Middle Ages*, and *Problems of Thomist Psychology*, by PROFESSOR F. GILSON, *Psychological Weakness and Strength*, by PROFESSOR P. JANET, *The Auditive Function*, by PROFESSOR H. PIÉRON, *Pathological Psychology*, by PROFESSOR G. DUMAS, *The Origins of Character in the Child: the Affective Period*, by PROFESSOR H. WALLON, *Economic Sociology*, by PROFESSOR BOUGLÉ, *Sociological Problems*, by PROFESSOR GAUCONNET, *Historical Studies in Aesthetics*, by PROFESSOR V. BASCH, *History of Morals and Education*, by PROFESSOR THAMIN, *Political Theories of India: The 'Yoga-Sutra'*, by PROFESSOR MASSON OURSEL, and *Pascal and the Casuists*, by PROFESSOR A. BAYET.

I

PROFESSOR LALANDE's book on Induction¹ is just one of these public courses delivered at the Sorbonne during the session 1921-22. Although the study is in the main an historical one, Professor Lalande has new things to say about old doctrines, and in an appendix of eighteen pages he considers certain recent contributions, mainly French, to the subject. Declaring himself

¹ LALANDE, *Les Théories de l'Induction et de l'Expérimentation*. Bibliothèque de la Revue des Cours et Conférences. Paris: Bovin, 1929. Pp. vi + 285 fr. 20.

in complete agreement with Professor Brunschwig's distinction, in *l'Expérience humaine et la Causalité physique*, between Empiricism and Experimentalism, he omits consideration of the former on two grounds, first, that he does not intend to deal even indirectly with an epistemological problem, but only to study the formation and value of modern ideas on experimental method; secondly, that 'doctrinal empiricism' has no existence for the creators of modern science or for those who contribute to the theory of it. His main problem then is the relation of Induction to Experimentation and the logical principles and foundation of experiment. So he distinguishes between three different though intimately connected questions in induction: its technique, its principles and its foundation. Two-thirds of the book is devoted to the technique of inductive procedure. This preponderance is unavoidable he says, for we shall at best improperly understand contemporary discussions on experimental method and the rôle character, and limits of hypothesis if we fail to notice how science has become progressively constituted and consolidated at least from the Renaissance. Logical questions concerning the principles of induction and philosophical problems about its foundations, on the other hand, were not fully raised until the nineteenth century and not dissociated until the twentieth, consequently they have undergone much less development than the analysis of inductive technique. After discussing various acceptations of the term 'induction,' he singles out Lacheher's 'amplificatory induction' as being that principal form of it which intervenes at every moment in the conduct of scientific experiment. The honour of having first formulated inductive method falls to Bacon, who is more modern than he appears, and whose influence has been great, despite his omissions and blunders. He did not, as is often said, misinterpret the rôle of mathematics, his methodological ideas are both wider and more exact than those of Galileo, and he did seize upon the essential character of experimentation. The development of hypothesis from Bacon through Newton to Mill is illustrated in an illuminating way, but it is in Whewell that Professor Lalande sees the most eminent representative of the first half of the nineteenth century. The popularity of Mill and Spencer prevented Whewell's work from receiving due recognition, but it has found confirmation in later developments of the philosophy of the sciences. The criticism of Mill's notion of cause is important and clear. This brings us to more recent work on the psychological analysis of discovery represented here by Claude Bernard, Naville, and Mach, in particular. Having studied the character of the logical operations effected in experimental procedure, Professor Lalande next asks: On what do these operations and technical rules depend? 'Dependence' here is ambiguous. We may mean (i) What is the character of those necessary and sufficient postulates to which we make appeal, and which every experimental procedure presupposes? or (ii) What is the foundation of those postulates, what justification or guarantee have we for trusting inductive conclusions? Consideration of the former begins with a critical discussion of the answers returned by Mill and Lacheher. It cannot be the principle of causality, for there are other types of inductive conclusion than causal ones. Nor can it be the joint employment of the principles of mechanism and finality, for though the former is presupposed the latter is too wide and inadequate. Too wide, for induction is employed in geometry and astronomy without any further assumption of 'final causes', inadequate for in the absence of a synoptic view of the whole, we cannot tell whether this or that observed regularity is, or is not, indicative of the ultimate character of classes or kinds. All principles affirming the complete intelligibility of the universe or a certain causal structure of the universe, are likewise to be set aside. All that can be done along such universal

lines is to state what are those conditions of the structure of the universe without which induction would remain invalid. Traditional solutions have been exclusively concerned with formulas affirming that the world does have a certain sort of structure, but if we take into account the *probable* character of every induction we shall be led to a quite different type of result, *viz.*, to rules of a normative character defining what it is legitimate and rational for us to expect or forecast in particular cases. For the principle of mechanism, Professor Lalande substitutes a principle of deductibility, and a principle of elimination of causes from considerations of their improbability. The principles of induction are, Professor Lalande decides in the end, three: those of deductibility of complementary probabilities, and of universalization. It is not these however, which lend their certainty to the experimental conclusions of an Ampère or a Pasteur, on the contrary, it is they which *receive* such confirmation as they have from experimental results, through the medium of "intermediate axioms" of the laboratory. The last chapter on the 'guarantees for our belief in induction' is less satisfactory: one feels that Professor Lalande is not sufficiently disturbed by the force of Hume's question. His solution is not very clear, but appears to consist in the suggestion that 'the answer is in the question itself.' The very notion of 'guarantees' implies, he thinks, permanent realities. That which is accepted as true in inductive conclusions is not a generalization posterior to our experience of particulars but something that is universal contained in the perception itself. Excepting perhaps the last chapter, the work maintains a high level of excellence, is clearly written, and carefully illustrated by reference to special sciences. The appendix, a complementary note on quite recent work on induction, contains an interesting discussion of Nicod's examination of Part III of Keynes' *Treatise*.

Less detailed, though clear and useful is M. DOROLLE's book on Induction.¹ He is at pains to correct certain prevalent and unduly simplified views about Induction, and so devotes the first of his three chapters to distinguishing it from Generalization. Inductive procedure is not correctly described in terms of a search for causes as Mill thought, nor is its object simply to establish class generalizations on the basis of particular observations. It cannot be assimilated with any particular form of reasoning process, though deductive arguments enter into it at certain junctures. The term applies, he decides, to a whole group of miscellaneous processes, no one of which alone is 'inductive.' The character of these processes is to be grasped not from any single descriptive statement, but only by examination of typical specimens. All operations which intervene from our perceptions of empirical data to our affirmations of law are stages in a relatively complete, though heterogeneous process of induction.

Passing from conditions of the validity of thought to conditions of its linguistic expression, recent work of the 'new' grammarians, like Messrs. Brunot and Bally, continues to exercise a profound influence that overruns territorial borders. It is now generally recognized that Language, a system of symbolism or expressive mechanism of social origin, is a more or less autonomous science—the last to receive its charter of independence from philosophy. All the same, it still maintains friendly and respectful relations with its former liege. It is believed to have its proper data, to proceed by empirical methods like those of the social sciences, and to be capable of reaching 'posi-

¹ M. DOROLLE *Les Problèmes de l'Induction*. Préface de M. A. Lalande. Paris: Félix Alcan. Pp. 147. Fr. 12.

tive knowledge. Its problems are frontier ones lying principally on the borders of semantics, psychology and sociology. The supposedly philosophical problem of the origin of language has for the most part been laid to sleep. Vendryès calls for definitely abandoning it as insoluble. The new science of *linguistique* is rooted in the existence of language as a social fact, an exceedingly complicated one whose transformations and their causes cry imperiously for investigation. And *la linguistique* has likewise severed itself from its former dependence upon any logic of *a priori* categories. Universal grammar (not in the sense of an *esperanto*)—if there is to be such a thing—can reveal its outlines only towards the end of these linguistic researches and be seen to follow as a sort of conclusion from comparative grammar. Consequently a table of grammatical categories or set of parts of speech is seen to be no longer an affair of initial postulation but a problem for solution. And its solution is to be empirically established at such time as linguistic science has reached a greater degree of development and precision. Scholars whose interests and studies lie along very different lines, connected apparently only by some concern with language—psychologists, logicians, grammarians, sociologists—have come to see that their work converges to a centre that is not the exclusive monopoly of any one of them.

For instance Professor Ferdinand Brunot, probably the greatest living authority on French philology, author of that monumental *Histoire de la Langue française des Origines à 1900*—of which nine volumes have so far appeared—was led in 1903 to begin working out the method, principles and plan of a new theory of Language, partly from considering why the usual school study of French had become repulsive and tiresome, the *blé noir* of pupils and masters alike. Now this new theory of language is not a grammar but a systematic exposition of *faits de pensée* considered in relation to language and their corresponding modes of expression, and classified accordingly. He early decided, before beginning the composition of his massive *Thought and Language*,¹ that he could not start with any category of parts of speech as his interpretative units. All existing classifications and definitions of them were confused and disordered. Current definitions of parts of speech led to absurdities or to such distortions of plain meaning that a complete break with all analyses of linguistic expressions in terms of words became imperative. So he reconstructed a theory of language, working out a classification, not of words but of the various sorts of meanings that symbols express. This root and branch reform was necessitated because verbal elements lack any constant value. Further linguistic forms, however numerous they may be, are always much fewer than the forms of thought they have to express. Therefore each linguistic form had to do duty for more than one form of thought and had so to fulfil different *fonctions* on different occasions. So a sort of Copernican revolution came about in the study of Language. Language could not be consistently explained with both rigour and adequacy through the functions of its constant symbols for its symbols were *not* constant. So Professor Brunot and others tried to show that better success attends an explanation which takes meanings as the constant factors and linguistic expressions as their variable correlates. Historical philology further strengthened the case for the prosecution. The general principle of the theory then is that linguistic facts are to be classified on the basis of the ideas to be expressed, not according to the grammatical properties of the vehicles of expression. And the ideas are to be arranged in categories so as to form natural groups—the method of construc-

¹ F. BRUNOT, *La Pensée et la Langue*. Second edition. Paris: Masson, 1928. Pp. xxxvi + 954. Fr. 70.

tion being not an *a priori* one, but "the way of scientific observation." Nor can research be confined within these limits. M. Giliéron's studies of spoken languages have brought to light certain 'disturbing influences,' mostly of psychological origin (such as the need to distinguish, which dominates the choice of words), thus there is a sort of "*revanche*" of mind upon sonorous matter—the irregularities of which threaten to obscure the precision of signs. Language is always sign: what controls and dominates it is the idea to be signified. The biological interpretation of language, its assimilation to living species, the definition of *linguistique* as a part of natural history, has now been abandoned, surpassed by the conception of language as a social fact. And this makes possible a psychological interpretation of the thought or ideas of different generations as disclosed by a comparative study of their forms of linguistic expression. The educational advantages that would follow from such constant emphasis on, and attention to, *ideas*, rather than truncated words. M. Brunot thinks obvious. The pupil would form the habit of attending directly to thoughts, of analysing what he wants to say or write, he would take pleasure in comparing and choosing the form of expression he prefers and so cultivate some grace of style. Enormous labour, erudition, and constructive ability have combined to create this work: but M. Brunot does not claim to have exhausted the possibilities of his method of interpretation or of his materials. He has sought and found a 'plan,' one which is not a pure creation of his own mind, but which was born in him from consideration of the character of things rather than words.

The fundamental ideas of M. Brunot's plan have something in common with those of Professor Charles Bally of Geneva: though the latter investigates their relations not to forms of expression so much as to facts of individual and social psychology. His book, *Language and Life*, claims to investigate language as expressive not only of thoughts, but also of feelings and actions. The evolution that it has undergone far from depending on the reflective decisions of men of science and letters is unconscious, collective in origin, issuing most often from the 'lower ranks'—the 'muttering mob.' Mistaken extensions of Darwinian doctrine confirmed this view, but for a time almost succeeded in directing *la linguistique* along a false track—suggesting that languages are 'organisms,' quasi-unities living their own lives. Nor is language merely expressive of judgment, even ideas that are apparently objective in reference *s'imprègnent d'affectivité*, the language of the individual is ceaselessly striving to translate their 'subjectivity'—hence the consecrated usage of idiomatic and exclamatory phrases. Action in daily life concerns practical motives, ends to be attained, never purely intellectual considerations: therefore the 'logical forms' of language are never uppermost, *affectivité* and *expressivité* dominate. There is much in the book to attract all interested in language: those sympathizing with its Bergsonian inspiration will appreciate the vigour and thoroughness with which the interpretation is carried through; others are likely to be stimulated into profitable controversy. The whole work is striking, but particularly good are the chapters on *Mécanisme de l'Expressivité linguistique* and *Langage transmis et Langage acquis*.

In the domain of pure psychology, M. PAULHAN has just published a record of his investigations into the abstractive character which he thinks all types of mental process exhibit. He holds that all mental activities and the 'factors'

* C. BALLY *La Langage et la Vie* Bibliothèque scientifique Paris Payot Pp. 236 Fr. 24.
* F. PAULHAN *Les Puissances de l'Abstraction* Bibliothèque des Idées Paris Librairie Gallimard 1928 Pp. 313 Fr. 30.

of their objective counterparts tend to persist when they are not present to consciousness. Inspection shows that a conscious state no sooner occurs than it 'decomposes' and yields to a successor. Certain factors of the state continue existing however, and their activity is 'prehensive' in character. They tend to connect up with any factor in a present conscious state that can aid in re-establishing the past state of which they are factors. Their reinstatement of past states however is always partial, never complete. And whenever such partial reinstatement comes about 'substitution' occurs also, the former being a condition of the latter. The function performed by those factors of an original state that cannot be reinstated is now carried out by new factors, sufficiently similar though different from them. This similarity between substituting and substituted factors enables the former to function in a way analogous to that of the latter, the degree of analogy varying with the degree of similarity between the two sorts of factors. This is the character of both dissociation and substitution generally, and in terms of it M. Paulhan accounts for the element of novelty, innovation and invention arising in our experience. The diversity and specificity of mental functions throughout are made to depend on the continuant active and connective character of dissociated factors of past experiences. So the formation and development of our ideas, conduct and of our minds themselves are traceable to this origin. The explanatory principles M. Paulhan employs which are those elaborated earlier and in more general connexions in his *Activité mentale et les Elements de l'Esprit*, are based on a biological conception of functional activity—not on any atomistic hypothesis. Many activities are postulated, viz., those of dissociation, combination, substitution, representation and perception, but how they are related to one another, and to that fundamental activity called 'personal,' which systematizes the mind into an identical but changing unity, is left quite unexplained. Metaphor is too overworked, 'forces' and 'tendencies' are always dangerous notions, but if they cannot always be dispensed with they need not be introduced so freely and with complete unconcern for their definition. As a phenomenological account of dissociation and recall the book is a valuable addition, but as an explanation of these phenomena its worth is diminished through lack of greater precision in defining its explanatory concepts.

II

French philosophers on the whole have been uncommonly sympathetic to English thought in the past, and this agreeable *rapprochement* is in no measure weakened to-day. Our tenacious adherence to common sense beliefs, the desire to restate them in forms possibly acceptable rather than discard them because of any original sinning against consistency, our faith that sense-experience is in the main trustworthy, that the more general beliefs of mankind have not only a biological value, but after critical refinement, a scientific value also—such characteristics of our contemporary thought find a ready response in a people whose tradition is one of *bon sens*. The efforts of English realists through the last three decades to discover what may be consistently retained from the more general of our common sense beliefs, their attempted solutions of restricted problems in a line with realist and common sense principles, have been eagerly followed in France, not only by workers like Couturat and Nicod but by the Neo-Thomists. Translations of Bertrand Russell's books have steadily succeeded one another, and recently Professor Kremer of Louvain has given a just and comprehensive account of the movement we call 'realist' (not 'néo réaliste,' as he supposes).

Dr P Devaux, who is at present preparing French editions of Russell's *Analysis of Matter*, and of four of Whitehead's books, has just published a French version of the Lowell Lectures.¹ The translation seems clear and competently done, though perhaps here and there Russell's irony is a little lamely rendered. A twenty-paged preface of Professor Barzin of Brussels University resumes some of the cardinal points of Russell's views on logic and on sense-data.

PROFESSOR KREMER's survey of contemporary English Realism² is the best statement that exists in French. It will give foreign readers a good idea of the main conclusions reached by English realists. The book is less successful, however, in conveying an idea of the logical character of the arguments by which these conclusions are supported. Professor Kremer has attempted to do this in some degree, but an adequate exposition (detailed as it would have to be) of the methods of Moore of Russell and Whitehead, would probably have necessitated a large volume and one in which the conclusions would have been too much overshadowed. Probably the author avoided detail for this reason. All the same, the 'originality' of recent realism derives largely from the character of its analyses: realists consider their methods certainly no less important than their results. The final impression of the survey, however, is far from being 'sketchy'. Besides a first chapter on the "Evolution of Neo-Realism in England" (tracing the transition from Neo-Hegelianism, through Shadworth Hodgson, to Moore's famous "Refutation," and what followed it) we have a separate chapter devoted to expositions of the work of Moore, Alexander, and Laird, and two chapters to Russell. Professor Kremer does not seem so conversant with Whitehead's writings, but the latter's criticism of the "bifurcation" of nature surely brings him into line with the others as one of the first realists in our day. The second half of the book reviews contributions that these thinkers have made to more or less separated topics of central importance, e.g. philosophic method generally, the analysis of consciousness, the status of sense-data, and truth and falsity. Professor Kremer's book is eminently suited to directing interest in English Realism along profitable lines, and now that so many of its principal works are being translated, foreign readers will have every opportunity to consider for themselves the detailed arguments on which realist conclusions depend.

DR HÉLÈNE METZGER's book on Scientific Concepts³ deals with their psychological formation rather than with their logical analysis and classification. The writer (whose past work has been mainly in the field of chemistry and its history) formulates her problem thus: By what different procedures do our minds come, spontaneously and without intentional preconception, to assign to one and the same class things that present superficial resemblances or profound analogies? And the formation of concepts is here taken, not as a topic of individual psychology, but as a problem depending for its material and for its illumination upon the history of the empirical sciences in general, and of chemistry in particular. Three sorts of concepts are first of all distinguished, viz., those founded on resemblance, on the permanence of substance and on evolution. Perception and the 'intuition of analogies' furnish the first sort of concept. And there are three types of analogy to be noticed

¹ B. RUSSELL *Méthode scientifique en Philosophie*. Traduit par Ph. Devaux, avec une Préface de M. Barzin. Paris. Vrin 1929. Pp. xxiv + 295. Fr. 25.

² R. KREMER *La Théorie de la Connaissance chez les Néo-Réalistes anglais*. Mémoire couronné par l'Académie royale de Belgique. Louvain. Institut Supérieur de Philosophie. Paris. Vrin. 1928. Pp. 204. Fr. 30.

³ H. METZGER *Les Concepts scientifiques*. Préface de M. André Lalande. Paris. Alcan. Pp. ix + 195. Fr. 12.

virtual analogy formal analogy and *analogie agissante* Concepts of the first class however are inadequate They articulate order among phenomena but do not disclose their causes Knowledge of causes is acquired through concepts founded on the permanence of substance but these although necessary at certain stages lead us into difficulties that can only be surmounted by resort to a third category of concepts those founded on the notion of evolution And this category of concepts is threefold corresponding to three different interpretations of evolution viz that of (i) parallel evolutions (similar origins similar issues) (ii) divergent evolutions (similar origins diverse issues) (iii) convergent evolutions (diverse origins, similar issues) The last chapter discusses the interpretation of scientific concepts by scientific nominalism In the light of this the author distinguishes two types of abstraction abstractions by refinement (*par épuration*) in which the genus or kind is represented by an ideal type its representatives differing from each other very little and abstractions *par indétermination* in which the genus is defined by a single quality common to all its representatives their other qualities remaining various The material from which these differentiations are developed is exceedingly well displayed and there has been more clear thinking in the composition of this little work than often goes to the production of a book several times its size It gained for its writer the Bordin Prize of the *Académie des Sciences morales et politiques*

Students of the foundations of mathematics will find much to interest them in the unusual approach of PROFESSOR GONSETH's book¹ based on the material of his lectures given at the University of Berne in 1924 to mathematical teachers Dr Gonseth begins his discussion of the foundations of mathematics selecting geometry as the most accessible part by investigating the logical character of geometrical axioms starting from Euclid's as classed into five groups by Hilbert passing on to the axioms of continuity of Cantor and Archimedes and the consequent reduction of geometrical to arithmetical continuity (Dedekind) Consideration of these groups brings him to a philosophical question (chapter vi On the compatibility and independence of the axioms of any system) How can we tell whether the axioms of any system are compatible and lead to no contradiction? Separate examination of their collective consequences is impracticable But he gives an argument to show that it is a *supposition* of a geometrical system that all its axioms are independent [Of any such system let A be any one of its axioms and G be the rest taken conjunctively Then any attempt to show that A is independent of the group G depends eventually on introducing not a geometrical but a logical axiom For we show A is not a logical consequence of the axioms G by constructing on the basis of G a collection of logical relations of which A is not one This collection cannot be a consequence of G alone for in that case A would be simply impossible along with G Therefore it is a consequence of G and some further axiom A' (different from A) added to G But in this case we have no right to suppose that a geometry based on $G + A'$ really exists unless we have proved that $G + A'$ implies no contradiction—and thus the problem is not resolved but remains as at the beginning to be solved So Dr Gonseth decides our attempt proceeds in a vicious circle we have not the logical means to establish that the system of axioms does not imply contradiction And he goes on to suggest The vicious circle is nothing but an absence of logical means of proof and cannot be interpreted in the contrary

¹ F GONSETH *Les Fondements des Mathématiques De la Géométrie d'Euclide à la Relativité générale et à l'intuitionisme* Préface de M Jacques Hadamard Paris Blanchard 1926 Pp xiv + 243 Fr 25

sense as a proof of the non-coherence of mathematical constructions") In chapter v, he considers the conditions for constructing continua, and concludes that Hilbert's classification of axioms into five groups is "artificial." There are two fundamental groups which make possible the construction of geometry, and which determine two well marked stages of its construction. (i) topological axioms, forming the basis of the system, (ii) axioms of movement, which introduce the conception of measurement into the primitive continuum. Chapter vi, on "Non-Euclidean geometries," forms an introduction to the study of Relativity, and the next two chapters expound its principles. Readers of this *Journal* will probably be most interested in M. Gonthier's tenth chapter, "Mathematics and Logic." Discussion of the merits and of the "necessity" of the "axiomatic method" leads to a consideration of the basic principles of formal logic, and a fairly full investigation of Peano's three primitive concepts and five axioms (It is astonishing to find no reference whatever to the work of Russell and Whitehead here.) Normally the mathematician accepts the jurisdiction of logic in these matters, and in consequence claims the right to its "infallible protection." But this infallibility does not exist. Following Poincaré, and fortified by Brouwer, Dr. Gonthier asserts the principles of classical formal logic to be invalid when applied beyond finite collections. This logic depends on the axioms of contradiction and excluded-middle, but Brouwer claims the latter "has value only when applied to those parts of the natural sciences on which a finite and determinate mathematical system can be erected." It is not applicable to infinite groups, and refusal so to extend it enables us to avoid certain paradoxes of the theory of groups (including that of the vicious circle). For Dr. Gonthier, however, the source of mathematical antinomies is to be sought not in the vicious circle, nor in an illicit extension of logic (as the "intuitionists" suppose), but in that conception of logic as a collection of formulae yielding infallible certainty and truth. Logical principles do not enjoy unlimited validity.

DR DU PASQUIER's treatise on Probability is a delightfully clear and understandable book. It is not encumbered with formulae, and he whose mathematical accomplishments are slender, can with steady effort contrive to pick his way through it with profit. In an historical introduction of thirty pages the author traces three "currents" in the development of the probability-calculus. It began modestly, in a problem set by de Méré to Pascal which started a correspondence between the latter and Fermat. For long, researches betrayed a purely utilitarian origin and a commercial turn connected with estimating gains and losses. Then problems received fuller and more theoretical formulation at the hands of mathematicians like Laplace and Bernoulli. The modern phase of its development, which became explicitly concerned with the philosophical presuppositions of probability, dates from Cournot, who, unlike his predecessors, seized on the possibility of reconciling chance and scientific determinism. The first attempts were then made to apply the *methode axiomatique* to the calculus of probabilities. As a result of these three lines of development—mathematical, sociological, and philosophical, it is now possible to provide the probability-calculus with a mathematical basis that neither logic nor philosophy can attack. Philosophical interests will find satisfaction mainly in chapters v (On different interpretations of the probability-calculus), vi, (logical definition of probability), and ix (Mathematical Probability and Experience). The first distinguishes (i) a psychological interpretation (e.g., Fechner's). All probability theorems are assertions about a state of mind, felt

* L. G. DU PASQUIER *Le Calcul des Probabilités, son Evolution mathématique et philosophique* Paris: Hermann, 1911. Pp. 304. Fr. 49.

certainly regarding expectations), (ii) the practical (that its theorems assert something about the degree of certainty with which an uncertain event is reasonably to be expected), (iii) the logical (that numerical values assigned to probabilities express some logical relation), (iv) the empirical (that its theorems resume certain knowledge relative to the frequency of past events), (v) the inductive (that they express certain regularities empirically discovered in the course of events) Dr Du Pasquier discusses each in turn critically, decides completely against (ii) and shows the others open to various objections though more difficult to reject entirely — In chapter vi he reaches, through an analysis of the logical notion of chance a further definition of mathematical probability which sets certain famous paradoxes in a new light. On the classical definition there can be probability only where there is at least partial ignorance of certain relevant conditions, the new definition however, is compatible with completest knowledge — In the last chapter he shows that, by means of the definition introduced in the preceding one, the relation of theory to experience is the same for the calculus of probability as it is for geometry and rational mechanics. Probability theorems are rigorously exact deductions from axioms, but their application to concrete matters cannot be made with exactitude.

Dr Du Pasquier has also published a fascinating monograph on Euler and his circle,¹ in which he relates the life of this prodigious worker, who in the sixty nine volumes of his collected works, seems to have written on every branch of the mathematics, astronomy, and physics of his day and to have made original contributions to some of them. After four chapters on his life and its historical setting, we are given an appreciation of his "universal erudition" in philology, history, chemistry, medicine, botany, and the mathematical sciences, of his remarkable memory and facility in mental calculation. The book closes with a long delightful chapter on his various scientific researches, written in a lively and informing manner — Dr Du Pasquier's writings are a model of lucidity and invite a second reading, and the printers have presented them extraordinarily well.

M. ALBERT THIBAUDET, the well known literary critic and former pupil of Bergson, has made a study of the principles of Bergsonism and their application, the third part of his "*Trente Ans de l'ère française*"². He says he would rather have called it "A Philosophy of Duration," since he does not pretend to be expounding pure Bergsonism but to be extending and applying its fundamental tenets to the interpretation of the current of Western thought generally. (In this case, the reader might reasonably expect to have been saved the first volume, which, though interesting in parts, is substantially Bergson himself. The second volume is more important and stimulating.) In several places M. Thibaudet is usefully corrective of certain interpretations sometimes advanced by those who have picked up their Bergson at second-hand. He tries to dislodge the idea that Bergson is an "adversary" of intellect, by stressing its function as complementary to the operation of intuition. He is suggestive too when trying to make good certain *lacunæ* in Bergson's work, particularly in the fields of art, ethics, and history, where, of course, M. Thibaudet has a quite special competence. Striking too are some of the comparisons he suggests, and the unsuspected parallels he shows with Bergsonian doctrine, in Western thought, ancient and modern — more particularly with the "*mobilité*" of the Ionian physicists, analogies with Schopenhauer, the

¹ L. G. DU PASQUIER *Léonard Euler et ses Amis* Paris: Hermann 1927 Pp. 125 Fr. 22

² A. THIBAUDET *Le Bergsonisme* Paris: Éditions de la Nouvelle Revue française 2 vols. Pp. 256, 256 Fr. 24

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suggestive idea that the Plato of the *Dialogues* (though not the Plato of the "School") is "bergsonizing" through his 'spontaneous creation,' that Socratic dialogue is the *élan vital de la pensée*, the idea that philosophy is not a possession but an activity, and so forth

Few introductions to the work of great thinkers possess the clarity, simplicity or charm of M APPUHN's little book on *Spinoza*.¹ M Appuhn, well known as the French translator and annotator of Spinoza's collected works, has written a volume "primarily intended for those who, without any knowledge of Spinoza, wish to form some idea of his attitude to Religion in general, and to Christianity in particular." This however hardly conveys a just idea of the book's usefulness. Of the eight introductory chapters, four have no direct connexion with Spinoza's attitude to Religion, but with the central parts of his metaphysic. The most important essay, the fourth on 'The Philosophy of Immanence,' illuminates his theory about the internal structure of the universe in a way that could only be done by one who had thought long and thoroughly on Spinoza. The relation of particular modes to substance, for instance, hardly could be discussed more usefully for those beginning Spinozistic study. Of the other chapters, "Spinoza, renegade Jew and Dutch citizen" gives an interesting glimpse into his environment and intellectual formation and that on 'Spinoza and the Cartesian method' explains clearly his view of truth and of the relation between knowledge and reality. Other chapters treat of "The Contemplation of Life," "Spinoza and the Bible," "Spinoza and Christianity," 'Social Life according to Spinoza,' and 'The Wisdom of Spinoza.' Following these are a few though lengthy pieces, covering some two hundred pages, translated and annotated from Spinoza's works and letters. From such careful expository guidance and first hand acquaintance with essential extracts, the reader's composite impression should certainly be more vivid and accurate in its representation than one skimmed from the usual monograph.

Lastly, there are three detailed studies of mediæval thinkers. Two, belonging to Theology rather than Philosophy, treat of "Divine Exemplarism" and "The Holy Spirit and its Gifts," according to the teaching of St. Bonaventura,² the former being a thesis for the Doctorate in Theology at Fribourg, Switzerland. The other is Dr. COMSÉS' work on St. Augustine's Political Doctrine,³ in which he shows that Augustine's political teaching, though fragmentary and widely dispersed throughout his writings, forms none the less a solid and coherent body of doctrine. The first section is a critical survey of publications treating of Augustine's political theory from Lenain de Tillemont down to date. After a chapter on sources, six others follow, each dealing with a single fundamental thesis, Augustine's analyses of authority, law, justice, war, the State, and its relation to the Church. The book is, as the author says, a "purely doctrinal study," but it was well worth undertaking, for it supplements the clear though brief statement in Janet's famous work, and completes monographs written on particular aspects of Augustine's political theory. Such a survey of the complete range of his politics does not seem to have been undertaken since 1859.

S. V. KEELING

¹ C. APPUHN *Spinoza*. Collection Civilization and Christianisme. Paris: Delpeuch, 1928. Pp. 364.

² J. M. DISNEY *L'Exemplarisme divin selon S. Bonaventura*. Etudes de Philosophie médiévale, IX. Paris: Vrin, 1929. Pp. 304. Fr. 35. J. P. BOURGEOIS *Le Saint Esprit et ses Donations*. S. Bonaventura. Etudes de Philosophie médiévale, X. Paris: Vrin, 1929. Pp. 237. Fr. 30.

³ G. COMSÉS *La Doctrine Politique de St. Augustin*. Paris: Mon, 1927. Pp. 482. Fr. 25.

PHILOSOPHY IN GERMANY

SUMMARY *This survey first deals with German Philosophy in the Twentieth Century and Forms of Thought both by Hans Leisegang. It then summarizes Theodor Ziehe's Foundations of the Philosophy of Religion. Next it refers to a revised edition of Hermann Cohen's Religion of Reason and to two small books by Louis Anderson. Finally some shorter announcements of other new books including Hans Reichenbach's Philosophy of the Space-Time Theory which Einstein has praised, Nicolai Hartmann's Hegel and a new edition of Bolzano's Theory of Science.*

There has recently appeared a very useful little book on *German Philosophy in the Twentieth Century* by HANS LEISEGANG, Professor of Philosophy in the University of Leipzig. It deals with a great many philosophers; it puts each in his proper pigeon-hole and it provides bibliographies and even photographs. It also makes plain the vigour and extent of contemporary German philosophy and the large number of separate schools. The expositions are necessarily brief but they clearly show the aims of each philosopher and the influences that have affected him. The book is divided into three main parts. The first is devoted to scientific philosophies like vitalism, neo-Kantianism and phenomenology; the second to philosophies of life like those of Keyserling and Simmel; the third to philosophies of culture like those of Windelband, Rickert and Dilthey.

In the first section of Part I the change from materialism to vitalism is considered. In 1910 Wilhelm Ostwald became the leader of the *Vonistenbund* which Haeckel had founded in 1906. He holds that nothing but energy exists. Life and consciousness are special forms of energy which interact with all other forms. Ostwald however is more optimistic than most devotees of energy; for he believes that its despotism is beneficent and that science will do every thing which men have vainly asked of God. But as the materialism of Haeckel has been followed by energism, so it has also been followed by vitalism. Leisegang has little sympathy with the vitalism of Hans Driesch. He accuses him of veiling the fiction of entelechy in the reprehensible expression *Ganzheitscausalität* (causality of the whole) and he dislikes his depreciation of history and his interest in occultism. But Leisegang mentions many other vitalists like Erich Becher who believe that only a super-individual spiritual being can give to organic nature the purposiveness which in their view it undoubtedly exhibits. Most of them draw a sharp distinction between the inorganic world which is subject to causality and the organic world which they hold is ordered teleologically. But William Stern and Friedrich Kottje aim at showing that the two worlds are continuous.

The second section is concerned with neo-Kantianism and other forms of idealism and with neo-scholasticism. The Back to Kant cry which arose towards the end of the nineteenth century has led to the Marburg School of Hermann Cohen and Paul Natorp. This school has its own paper *Kantstudien* and its own organization the *Kantgesellschaft*. The fundamental principle of the neo-Kantians as of Kant is that thought creates its own objects. Mathematics which consists only of self-evident premises and what is deducible from them is the exemplary science. Cohen who died in 1918 was a very rigid rationalist whose methods have been extensively applied

by Ernst Cassirer.¹ In ethics he thought that justice is the fundamental concept, and that Christianity has obscured moral concepts by basing morality on our love for others instead of on their rights. Natorp, who died in 1924, was less rigid for, says Leisegang, although he first studied Plato because he saw him as a neo-Kantian, he gradually became influenced by the real Plato. In this section Leisegang also refers to Rudolf Eucken and the inspiration he drew from Fichte's faith in the supreme status of moral activity. He concludes by pointing a contrast in the philosophical views of contemporary German theologians. On the one hand, many protestant theologians have allied themselves with the neo-Kantians—Ernst Troeltsch, for example, introduced the notion of *a priori* religious principles. Catholic theologians, like Clemens Baumbach and Joseph Geyser,² on the other hand, go back to the Schoolmen, and especially to Saint Thomas Aquinas.

In the third section of Part I Leisegang deals with the positivists, who base themselves on Hume and the English utilitarians, and stress the objective constituent in the subject-object unity. He regards Mach and Hans Vaihinger as the most important members of this school. Mach analysed the common-sense world into sensations whose nature is jointly determined by the body, the mind and physical objects. The self, for him, consisted of successive sensations, and its unity was a fiction constructed for economy of thought. Thought, which he considered biologically, was a tool for dealing with the mass of sensations. Vaihinger's philosophy is also closely connected with this view of thought. The mind, he says, created thought, and thought created fictions. A fiction is a hypothesis known to be false but used for the sake of attaining a legitimate end. Vaihinger puts forward as examples Adam Smith's view that men are wholly selfish, the chemists' view that the ultimate constituents of matter are atoms of a certain weight and his own view that we should live as if there were a God and we were free.

In the last section of this part Leisegang deals with philosophies based on psychology and with phenomenology. The first, he says, was that of Wundt, who founded his psychology on physiology, introspection and experiment and advocated psycho-physical parallelism. Psychological processes, he held, have their own laws and among them is the 'creative synthesis' which combines psychological elements into new wholes. Wundt believed that this synthesis is an act of will and the fundamental factor in all living organisms. This view developed into the philosophical outlook of voluntarism. Leisegang also refers briefly to psycho-analysis, autosuggestion and spiritualism. He praises psycho-analysis for its fine discrimination of mental facts and condemns it for its mechanical conception of the unconscious. In connexion with spiritualism he quotes Christian Bry's opinion that, if spiritistic phenomena are real they are certainly supersensible but also senseless. Leisegang doubts the success of attempting to base philosophy on psychology. The psychologist, he says, is so absorbed in explaining that he ceases to evaluate. The section concludes with a reference to Edmund Husserl and other phenomenologists. These philosophers are all vigorous opponents of *Psychologismus* as they call the extension of psychology to logic, ethics and other studies. But, as we have seen in previous surveys,³ in their attempt to discover what is essential in the world, they study external objects by minutely analysing the mind's awareness of them.

¹ Cf. this *Journal*, vol. II, pp. 83 ff.

² *Ibid.*, vol. II, pp. 90 ff.

³ *Ibid.*, vol. III, pp. 87-8, and *The Philosophy of 'As If'* by HANS VAHINGER, translated by C. K. OGden, London: Kegan Paul, 1924.

⁴ *Ibid.*, vol. II, pp. 79 ff., pp. 386 ff., and elsewhere.

PHILOSOPHICAL SURVEY

Part II deals with an entirely different type of outlook which as Leisegang says has almost nothing in common with that of academic philosophy. The philosophers here considered have developed along the line which began with Goethe and led through Schelling, Schopenhauer and Nietzsche. They are many and include such well known names as Spengler, Keyserling and Simmel. Their outlook is romantic and mystical; their writings are unsystematic. They distrust science. They believe that reasoning and inductive generalization are of little account and that every discovery of importance is due to intuition. Their standpoint is aristocratic in that almost all of them divide mankind by some principle into the creative or saved and the imitative or damned. Every philosopher takes it for granted, observes Leisegang, that he himself is one of the creators and it is comforting to know that it is possible to rise from the lower to the higher group. Leisegang vigorously seconds Ruckert's contention that philosophies of life are bound to be false if they try, as they often do, to evaluate everything in terms of health and disease. It must be realized that life is not the highest value and the aim should be to find the connexion between mere living and good living. The acknowledgment of this aim has led many of these philosophers to remedy their neglect of science. They have investigated the nature, growth and decay of culture and the philosophy of history. They emphatically maintain that the truth of history does not lie in its correspondence with facts. To reach truth the historian must lose his own self and absorb the character of his subject. Then he can use the subject's standard of values and write from its point of view. He needs intuition similar to the artist's. He must know neither good nor evil, neither truth nor falsehood. This type of historian, Leisegang thinks, is found in Oswald Spengler, from whose morphology of cultures the principle of causality is eliminated. Each culture is an organism which blossoms, flowers and decays. It was desire for such understanding—to see, for example, the Indians as they see themselves—that led to Keyserling's travel diary. The finest, profoundest and most conscious work in pursuit of this ideal has been done, says Leisegang, by the poet Stefan George and his circle. This work includes Gundolf's books on Shakespeare, Goethe, Kleist and George. Art naturally has a very important place in the scheme of these philosophers. According to Keyserling, metaphysics, so long thought to be the driest and most abstract of subjects—the quintessence of boredom—is really an art. The philosopher, he says, expresses himself in concepts, the musician in sounds, but the purpose of both is the same. Art, of course, is not imitation of nature; it is an excellent way of knowing reality. In fact, not only is metaphysics art, but art is metaphysics. Finally, the complete man must, in the view of these philosophers, have not only science and art, both based on intuition, but also religion. And the religion which is the summit of culture is impossible without science and art. Philosophies of life are influential, says Leisegang, because they appeal to the many who desire religion, but not in its traditional forms.

The philosophers whom Leisegang groups together in Part III are interested in cultural values. Those of the South West School set out to construct purely formal systems of values. Wilhelm Windelband's aim was to find the *a priori* foundations of history as Kant found those of natural science. History consists of events selected because of their value as measured by a system of values. These values are *a priori* and are deducible in the Kantian sense from the three functions of the human mind: thought, emotion and feeling. They are truth, goodness and beauty. Hugo Münsterberg¹ also deduces an

¹ Cf. this *Journal*, vol. iii, pp. 89 ff.

a *priori* system of values, but he regards conation as fundamental. It is through human action that the world derives its value. Our will that the world should be valuable guarantees its value, and all the individual values are derived from our various demands. Heinrich Rickert,¹ a pupil of Windelband, distinguishes six kinds of value: truth, beauty, impersonal holiness, morality, happiness and personal holiness. Other philosophers, of whom Scheler² was the first, objected to the *a priori* formalism of these systems. Among them is Nicolai Hartmann who argues that values are external to us, and that a special capacity is required for their apprehension. It is the misfortune of individuals and states that they fail to recognize each other's value. The philosopher should enlighten them. According to Wilhelm Dilthey, the ideal of all the mental sciences is that understanding by which we know conscious objects by entering into their experiences. To obtain an all round understanding of the history of philosophy, Dilthey divides philosophical systems into various types, each of which is the outcome of its creator's oneness. The truth is to be found in a synthesis of the various systems, and it should be the aim of everyone to understand the systems of others. Such understanding is not mere knowing and has practical effects. Hence, concludes Leisegang, such understanding is very important in these days, when there is so much conflict in every sphere. We are not asked to give up our own view, but we must understand the views of others.

Leisegang has also recently made a contribution to philosophy of his own. The main thesis of his *Forms of Thought*³ is that there are a number of different logics, each arising from a special kind of material, and each giving rise to a special kind of outlook. Each logic has its own fundamental laws which determine the validity of the thought which it governs. We are most familiar with rationalistic logic, with its laws of identity, contradiction and excluded middle and its proof by syllogism. We therefore condemn as fantastic nonsense many propositions which break these laws. But this condemnation may be mistaken and due to our inability to understand the laws of the logic which governs the propositions we condemn. For example, says Leisegang, the statement 'I am the way, the truth and the life,' if judged by rationalistic logic, is clearly false. Such statements as 'out of all one and out of one all' puzzle us. But our condemnation and bewilderment indicate that we have not discovered the appropriate logic. *Forms of Thought* was written to help the understanding of alien thought, and the author is more anxious to defend his method than the actual distinctions between forms of thought which he himself draws. 'Thought form'—*Denkform*—is the expression Leisegang uses for the structure of a logic, and the method to be used in discovering such forms is inductive examination of thoughts as expressed in different writings. His book illustrates his method by applying it to different writings; it also gives the classification of thought forms which he reaches. Many writings are examined; the examples cited below are only selections.

The first thought form considered is called the thought-circle. It is to be found in Heraclitus, Saint Augustine, Bruno, Goethe and a host of others. It is the typical form of mystical speech. Its structure is circular, because the first concept leads through other concepts back to itself. It is produced by the world of spirit and life, where seed leads to organism and organism to seed. The concepts in the thought-circle are not related to each other as

¹ Cf. this *Journal*, vol. II, pp. 85 ff.

² *Ibid.*, vol. IV, pp. 337-40.

³ *Denkformen*. Walter de Gruyter, Berlin, 1925. Pp. 457. Price RM. 20.

genus to species but as opposites. Among writings closely considered are those of Herakleitos and Saint Paul which Leisegang says cannot be understood unless they are recognized to exhibit this thought form [But are those who apply rationalistic logic to the Epistle to the Romans bound to say, as Leisegang says they are, that in arguing from the sin of Adam to the sin of all men Saint Paul merely committed the elementary fallacy of inferring a universal conclusion from a particular premise?] The circle of circles to which Leisegang devotes a whole chapter was the thought form used by Hegel. In Hegel a thought circle has only three constituents, none of which can have a place in any other circle. But each circle is itself a constituent of a larger circle. Hence rises the circle of circles.

Of rationalistic logic the thought form is the pyramid of concepts. It is constructed by dividing a concept into those which fall under it. This thought form is derived from mathematics and is quite appropriate to mathematical concepts for it can exhaust their content. But it is inappropriate to other material. For although it may bring order into a chaotic mass of individuals, it entirely fails to disclose their essence. Leisegang therefore condemns any attempt to understand the whole universe by this rationalistic form, and he regards some of the Platonic dialogues as the best examples of such fruitless attempts. Plato mistakenly believed that the world is ordered as the pyramid of concepts is ordered, and this belief was shared not only by the neo-Platonists but also by Aristotle and the Schoolmen. Hence their horror both of an infinite regress and of continuity. Hence too puzzles like those of Zeno. Leisegang believes that Kant's important contribution to thought forms was that he showed that the pyramid of concepts is but a scheme of order superimposed upon the world by our reason. He did not realize any more than his predecessors that there are other thought forms which his arguments do not touch.

The value of understanding, so Leisegang concludes, has only recently been realized. When we look at the history of philosophy, what strikes us most is that different philosophers are always making incompatible statements. Some explanation is required. We may be sceptical and hold that we cannot choose between these conflicting views. Or we may believe in the Hegelian circle which leads from conflict to synthesis. Leisegang finds neither of these answers at all satisfactory, but thinks that the distinction between thought forms solves the problem. Thought forms are adequate only to the material from which they arise, and philosophical conflict is due to ignoring this fact. The rationalists accuse the mystics of obscurity, and the mystics accuse the rationalists of superficiality. Leisegang would do justice to both.

*The Foundations of the Philosophy of Religion** by THEODOR ZIEHEN, Professor of Philosophy in the University of Halle, is mainly a short and interesting survey of the religious elements in various philosophical systems. But it also alludes to the philosophical elements in various religious systems. Every religion, even the most primitive, contains, according to Ziehen, some philosophy. It is instructive, for example, to compare the early Indians with the Jews. Among the former we find philosophic doubts about many things, including the nature of God, whereas the Old Testament is relatively unphilosophic. Ziehen considers the question whether the God of philosophy is also the God of religion, and whether, if there be a difference, it is fundamental. The God of religion, he says, is vaguely conceived, but that He is personal and transcendent is invariably believed. In some philosophies, like

* *Die Grundlagen der Religionsphilosophie*. Felix Meiner, Leipzig, 1928. Pp. 166. Price RM. 3.80.

those of Aristotle, Leibniz and Kant, God possesses these characteristics, in others, however, like those of Plotinus, Spinoza and Fichte, He does not. Ziehen does not himself believe that the existence of a personal, transcendent God can be plausibly maintained. He finds all the alleged proofs of His existence unconvincing, and criticizes the various philosophical modifications of the view. The weakness of the view is most glaring, he thinks, when we consider the facts of evil, and in so far as Leibniz's attempt to reconcile God with evil is especially thorough its failure is especially marked.

In Ziehen's view, if the conception of God is to be retained at all philosophy must be allowed to change it radically. This is of course what it has frequently done. We get the various mystical conceptions of God, which Ziehen discusses at length and the pantheism of Spinoza. But the mystical conception of God suffers from lack of ascertainable content, and Ziehen holds that the same is true of Spinoza's conception. He allows that Spinoza's conception of God has some resemblance to that of religion, in that God alone has absolute value and for us at least is transcendent. Kant's view, though untenable, has the great merit of basing religion on ethics. Fichte goes a great deal further and identifies God with the moral law. Comte, although founding his view almost entirely on the data of natural science, yet sees in humanity an object of religious worship. But Ziehen is not disposed to deify humanity. The anthropomorphic error, he thinks, is more glaring in Comte's system than in orthodox religions. It is essential that an object of worship should transcend man and his little world. In quite recent times there have been approximations to the mystical view, for example, by Rudolf Otto and Max Scheler, who lay emphasis on contact with God through intuition of His essence.

The last chapter contains Ziehen's own solution of the problem—which he describes as nomotheism. He has already asked whether such purpose as there is in the world can be explained without the hypothesis of a personal creator. He now answers that it can, but that the explanation leaves us with a God though a very much modified one. Fichte, we have seen, identified God with the moral law. Ziehen identifies Him with the totality of laws. This identification, he contends, allows to God many of the qualities which are traditionally attributed to Him. God remains omnipotent, one, timeless and omnipresent—though of course in a somewhat different sense. This view is free from anthropomorphism, and yet avoids the emptiness of the mystical conception. There are, he says, three different kinds of laws: logical laws, which are quite independent of human thought, causal laws, and epigenetic laws which determine the parallelism between mental and bodily events and include the laws of value. These three sets of laws constitute God. He considers two objections to his view: that it deprives God of holiness and that the name 'God' rightly belongs only to a person. He answers first, that laws have the same claim to holiness as a personal God, and he cites Kant's reverence for the moral law, secondly, that philosophy has the right to transform concepts and give words new meanings. It is true, he concludes, that most men are unable to feel *amor intellectualis Dei*, and it will be necessary for them to personify the object of their worship and to substitute a 'law-giver' for the laws. Ziehen thinks it quite permissible to know God as the totality of laws and yet to feel towards Him as towards a person.

The past year has seen a second edition, revised by Bruno Strauss, of *The Religion of Reason* by HERMANN COHEN, whom we have mentioned

* *Religion der Vernunft* J. Kaufman Frankfurt am Main. 1929 Pp. 629 Price, RM. 18.

above. The author's general principle that reason alone is the source of all our concepts is here applied to religion. Religion consists of concepts; it is therefore the product of reason and has the characteristics of any knowledge rationally acquired. Hence no historical inquiry into religion can be merely inductive. History reveals the various forms in which rational religion has been manifested, and Cohen believes that in Judaism it was manifested best. What Judaism is and why it occupies this eminence are what this long book sets out to show.

In his two books *The Logical*¹ and *The Soul and Conscience* LOUIS ANDERSON advocates an axiological explanation of the world—an explanation in which values are the fundamental factors. There are three kinds of substance: metaphysical, psychical, and natural, and the laws on which the existence of the world depends are laws of value derived from the metaphysical substance. In *The Logical* he distinguishes between logical source, logical process, and logical effect, and he applies this three-fold division everywhere, with a neatly ordered universe as the result. The metaphysical substance is the logical source of the world, and the categories which he discusses at length fit into the all-pervading pattern. In *The Soul and Conscience* his three-fold division is applied to the human mind. Chief place is given to the will and conscience. The latter both reveals the metaphysical order and is the soul's attitude towards it. The laws of this order are the laws of worth, of truth, and of love, and the psychologist who desires more than superficial results must study the soul as the product of these laws.

Among other books on logic is the *Logic* of ALOS VON PAULER, Professor of Philosophy in the University of Budapest, who attempts to base a logical system on three fundamental propositions. There is also a short essay on *So-called Analytic and Synthetic Judgments*² by WALTER DUBISLAV, who maintains that the distinction exists only among subject-predicate propositions. In Dubislav's view a judgment is analytic in relation to a system of presuppositions if it is deducible from it by presupposed principles.

An important book on philosophical questions raised by physics is *The Philosophy of Space-Time Theory*³ by HANS REICHENBACH, Professor in the University of Berlin, who bases a space-time theory on his own analysis of causality.

Among historical books are several on Kant and Hegel. In his *Commentary on Kant's Main Writings in Ethics and the Philosophy of Religion*⁴ AUGUST MESSER, Professor of Philosophy at Giessen, seeks to overcome the difficulties which arise in these writings through Kant's obscure⁵ expression.

¹ *Das Logische seiner Gesetze und Kategorien* Felix Meiner, Leipzig, 1929, Pp. 97, Price RM 3.

² *Die Seele und das Gewissen* Felix Meiner, Leipzig, 1929, Pp. 9, Price RM 3.

³ *Logik: Versuch einer Theorie der Wahrheit* Walter de Gruyter, Berlin, 1928, Pp. 291, Price RM 11.

⁴ *Über die sogenannten analytischen und synthetischen Urteile* Hermann Weiss, Berlin, 1926, Pp. 24, Price RM 3.

⁵ *Philosophie der Raum-Zeit-Lehre* Walter de Gruyter, Berlin, 1928, Pp. 380, Price RM 18.

⁶ *Kommentar zu Kant's ethischen und religionsphilosophischen Hauptschriften* Felix Meiner, Leipzig, 1929, Pp. 196, Price RM 4.

⁷ For surveys of other books by Messer, see this *Journal*, vol. III, pp. 88 ff., and vol. IV, pp. 109 ff.

KURT BORRIES in *Kant as a Politician*¹ develops the political ideas contained in the critical philosophy NICOLAI HARTMANN Professor of Philosophy at Cologne has just published a book on *Hegel*² he had previously published in the same series a volume on Fichte Schelling and the Romantics *From Mysticism to Baroque 1400-1600*³ by WOLFGANG STAMMLER deals with all the personalities of the period It contains many notes on sources and a very full list of names and dates

Among less technical works are *The English Conception of Freedom*⁴ by RUDOLF HENNE and *The Philosophy of Films*⁵ by RUDOLF HARMS In the former freedom is taken to be the absence of compulsion In England says Henne the rights of free individuals are not catalogued but there is a strong consciousness of freedom which is mainly due to the substitution of social for legal restraints In *The Philosophy of Films* Harms considers films historically technically aesthetically and ethically He also reviews the relevant literature

We may note in conclusion that *The Theory of Science*⁶ by BERNARD BOLZANO is being republished in four volumes under the supervision of Wolfgang Schultz who has added a list of the authors quoted Bolzano has greatly influenced Edmund Husserl who first revealed his merits His works are of special interest to those who hold that the subject matter of logic is independent of thought

HELEN KNIGHT

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- ¹ *Kant als Politiker* Felix Meiner Leipzig 1928 Pp 228 Price RM 10
² *Hegel (Die Philosophie des deutschen Idealismus II Teil)* Walter de Gruyter Berlin 1929 Pp 392 Price about RM 18
³ *Von der Mystik zum Barock 1400-1600* J B Mettler Stuttgart 1927 Pp 534 Price RM 15
⁴ *Der englische Freiheitsbegriff* Sauerländer Aarau 1927 Pp 92 Price RM 2 40
⁵ *Die Philosophie des Films* Felix Meiner Leipzig 1926 Price RM 8
⁶ *Wissenschaftslehre* Du & I Felix Meiner Leipzig 1929 Pp 187 Price RM 5 50
 (By now three volumes should have appeared the fourth is due in February)

NEW BOOKS

- A Commentary on Plato's Timaeus* By A. E. TAYLOR D.Litt. F.B.A.
(Oxford: Clarendon Press; Humphrey Milford, 1928. Pp. xvi + 700.
Price 42s. net.)
- Plato: Timaeus and Critias* Translated by A. E. TAYLOR (London: Methuen
& Co., 1929. Pp. vi + 136. Price 6s. net.)

There are in existence several commentaries on the *Timaeus* and innumerable books on Plato from every possible angle. It might well be supposed therefore that little could remain to do upon so famous a work of so great a writer, and that Professor Taylor's 700 pages of exposition must have their excuse sufficient or insufficient in some wild novelty of interpretation. This would be quite wrong. There is novelty of interpretation in Mr. Taylor's pages of which more anon, but Mr. Taylor would probably himself agree that this is secondary, and that so far as he has succeeded in his aims his book has a value quite independent of these novelties. The fact is that the problems of the *Timaeus* have not been fully discussed in modern times, that they are of quite exceptional importance for the history of Greek thought, while the labours of scholars in many fields have provided resources for the interpreter which were denied to earlier generations.

The *Timaeus* is of course in form a cosmogony: it tells of the creation of the world and of the things in it, especially man. But this is largely mere form for time, as we learn, came into being with the visible world, and the figure of the Creator remains throughout the discourse distant and problematic. The narrative is essentially an analysis of the created, an account of nature. Thus we have in the *Timaeus* the nearest thing that Plato ever wrote to a scientific treatise. There are many points of contact of course with other dialogues, but most of the detailed discussions concern topics with which no other dialogue deals at all. *Inter contra*, these discussions bring Plato into relation with a mass of literature containing physical, physiological and medical speculation and observation with which the rest of the Platonic writings have little or no contact. Greek philosophical achievements have been always honoured in the modern world, but the achievements of Greek science have not always received their due, and the modern severance of science from philosophy has helped to obscure them. It is fitting that our generation, which witnesses a certain *rapprochement* between science and philosophy, should concern itself seriously with the science of ancient Greece and its relation to Greek philosophy.

The chief aim we take it of Mr. Taylor's work, and certainly its greatest success, is to be found here. He is unequalled in his mastery of the whole range of Greek thought, including its science and mathematics, and of the extensive modern literature which has recreated it for us: he is an expert Greek scholar, and his own personal bent is philosophical or metaphysical. Such qualifications are not often found in combination, and the work which he has here done there is probably no one as well qualified as he to do. With great patience and acuteness he has applied his learning to the task of relating every single element in the doctrine propounded by *Timaeus* to earlier and contemporary movements of thought. His general formula is that the doctrine

represents "an attempt to graft Empedoclean biology on the stock of Pythagorean mathematics." The main representative of the Pythagorean tradition is Alcmaeon and full and skilful use is made of the medical writings, the importance of which for the interpretation of our philosophical texts Professor Taylor was one of the first to recognize. The metaphysical foundations are, of course, not ignored, and the striking resemblance between the metaphysics of *Timaeus* and some modern theories of nature, particularly Dr. Whitehead's recent constructions, are well brought out.

The book is primarily intended for Greek scholars, the notes are full of Greek quotations and their primary and immediate concern is always, rightly and properly, to facilitate an understanding of the Greek text. Many notes beginning as discussions of a sentence broaden out into essays on some aspect of Greek thought, and it is perhaps a pity that Mr. Taylor has not indicated more plainly where these essays are to be found. Those who have no Greek, therefore, will find the book practically closed to them. But those who have some Greek, even if not sufficient to enable them to work profitably through the Greek text, may yet find the commentary enlightening, if they make good use of Mr. Taylor's lucid and excellent translation. They will naturally skip a good deal—all that deals with linguistic difficulties—and they will probably miss some of the finer points. But very much remains, and it would be a pity if it were thought that only an expert Grecian could use this book.

A word in conclusion about what we referred to above as the novelty in Mr. Taylor's point of view. Mr. Taylor insists on taking seriously the dramatic or internal date of all Plato's dialogues and the personality of all their main characters. These characters are with few exceptions, real men, and Mr. Taylor maintains that Plato is careful to put into their mouths only things which in fact they might have said. Now *Timaeus* is pretty evidently a Pythagorean, and the dramatic date is that of the *Republic*, which Mr. Taylor puts at 421 B.C. The date of composition on the other hand cannot be very much earlier than the middle of the following century—after, but not long after, the year 360 B.C. It is a science and philosophy, then, that was never at home in the Academy, however sympathetic the Academy may feel towards it that Plato here expounds—the views of Pythagoreans of sixty years ago necessarily ignorant of all the recent discoveries in mathematics and science on which the teaching of the Academy—itsself now a full generation old—is based. It seems to us that this is taking the dramatic setting too seriously, and we think it is a pity that Mr. Taylor has given so much prominence to this thesis in his notes. We said earlier, and we repeat, that this should be regarded as a secondary question and that the solid merits of Mr. Taylor's exposition are largely unaffected by it. At the same time it must be admitted that there are relatively few of these 700 pages that Mr. Taylor would not wish to alter if he ever found occasion to adopt a different view on this point.

J. L. STOKES

Man and the Universe By HANS DRIESCH Translated by W. H. JOHNSTON, B.A. (London: George Allen & Unwin Ltd. 1929. Pp. 170. Price 6s.)

Among current writers who have been interested in the metaphysical interpretation of natural science there appear to be two chief types. (1) First there are those who appear to hold that the propositions of natural science

are confined to assertions about "pointer readings," etc. They admit that either by a lucky chance, or as a consequence of a process of selection or some other manipulation of these pointer readings, natural science is able to provide a set of rules for the practical guidance of bridge builders, aircraft-designers, cattle-breeders and others, but this, they believe, tells us nothing about the world which can be relied upon for metaphysical purposes. (2) Writers of the second type hold on the contrary that natural science does provide a body of knowledge which can and must be taken seriously in seeking the foundations of a metaphysical theory.

The basis of this disagreement seems to be the simple fact that the pursuits of human beings are not confined to natural scientific investigation and philosophical reflection, but include non intellectual occupations as well. Writers of type (1) appear to find the task of fitting the beliefs associated with non intellectual pursuits into one metaphysical scheme with the scientific theories too difficult, and prefer to treat the former on a "mystical" and the latter on a "logical" basis. Professor Driesch expressly rejects this view. He appears to be referring to writers of type (1) when he speaks of those who say "that science is no more than a particular, although comprehensive, form of world-contemplation—the intellectual form and that there are other forms, or, as the popular expression goes, standpoints as well." Professor Driesch states that "in so far as we are dealing with real knowledge at all, there is only one standpoint with regard to the world, and only one form in which it can be apprehended, which is precisely, Knowledge, or Intellect." But this is also what writers of type (1) would say: only they would add that just because there are other points of view which are different it is not possible to bring them all under one. What can it mean, for example, when Professor Driesch says (p. 103) "Although art and philosophy travel by different paths, they meet in the ultimate"? This seems clearly to be one of those things which, in the terminology of Dr. Wittgenstein, "cannot be said." (Dr. Wittgenstein appears to violate his own principles when he says that "Ethics and Aesthetics are one.")

Professor Driesch, then, belongs to type (2), and members of type (2) can be classified according to the method they adopt in rushing in where those of type (1) fear to tread. (a) First there is the method of one-sided scepticism, or "appearance" and "reality," which has two varieties according to what is chosen as real and what is relegated to appearance. Either (i) what physical science deals with is called appearance and the rest reality, or (ii) what the physical sciences deal with is taken for reality and the rest is regarded as the outcome of the peculiarities of the real when it forms part of the brains of human beings. (b) Secondly, there is the pluralistic method of treating the contending claims on a more or less equal footing, recognizing a number of different irreducible reals. This is the alternative adopted by Professor Driesch, although it may be doubted whether he is "ethically neutral." (c) Finally, there is the method of stringing the various claimants on a time series, and regarding "later" ones as "emergent" from the "earlier" ones. Curiously enough Professor Driesch does not mention this, although he is a biologist.

The author explains that his book (which is not addressed to professed philosophers or scientists) presents his "complete philosophical system" to all who care to be presented with a picture of the universe complete and having a scientific foundation. The book also undertakes to "state quite exactly where knowledge ceases and conjecture begins." And all this is done in no more than 170 pages. Professor Driesch begins by sketching the "natural man's" view of the world, and then proceeds to demolish it until nothing is left (after the usual arguments) except "I consciously experience something."

and this the author regards as an ultimate indubitable datum. On analysis this "something" proves to be extremely manifold, but nevertheless manifests order. The various sciences can be pursued without "going beyond" this, but since much more order is achieved by supposing that there are independently real entities of some sort which are "meant" by the empirically given objects, this assumption is adopted. This is an assumption which cannot be verified, but is "an extremely useful hypothesis." But according to Professor Driesch it is necessary to make some further assumptions before we can say anything about this hypothetical real. It is necessary to assume that certain "concepts and postulates of an ordering nature" which apply to the given appearance also apply to the not-given reality. We are told that the relation of reality to appearance is a particular instance of the relation of "reason" to "consequence" and that the relation of "cause" and "effect" is another instance of the same principle. The doctrine that "the reason is never less manifold than the consequence" is given an ontological, and not merely a logical, interpretation and plays a great part in Professor Driesch's arguments.

Professor Driesch appears to assume without question that the mere fact that we use the pronouns "I," "my," and "me" is sufficient to establish the existence of an "empirical ego" which is a "part" of the real. But only a part, for Professor Driesch also states that it is only a little bit and not a very important bit of something much more "extensive" (metaphorically speaking) which he calls the soul. The ego is not able to *do* things and does not know very much. It knows what is required for lighting a cigarette, but it cannot strike a match since this necessitates the excitation of nerves and muscles about which the ego knows nothing. The soul, however, knows all about these things and as Professor Driesch says, "in each case does what is necessary." This strongly recalls what Mr. Bertrand Russell has said about the ether and the perfectly good boy. In spite of the statement on the dust-cover that the book is "excellently adapted to the intellectual capacities of the non expert reader," it is extremely difficult to discover what Professor Driesch means by "knowledge." He seems to identify it with the ego and some other entities. He speaks of it as a "genus" with many 'species,' among which are the soul (cf p. 69 where the soul "denotes a particular realm of knowledge which, with reference to 'me,' is unconscious"), the conscious ego, and "instinct," not to mention other more shadowy manifestations.

Even the expert reader will probably find his "intellectual capacities" tested in trying to reconcile the author's good intentions in the Preface with much of his procedure in the book. In some cases the promise to point out where assumptions are made is carefully carried out, in others they appear to be allowed to slip in quietly as though they were trying to escape attention. In yet other places assertions which *must* be very doubtful on Professor Driesch's principles are simply laid down without any sort of justification. We are told, for example, that what "corresponds" to the 'space of experience' may or may not be a 'real space,' but that it 'possesses three dimensions.' To this is added the bare assertion that this real space 'is Euclidean' (which destroys Einstein's so-called universal theory of relativity, if it is to be more than a mere shadowy mathematical formulation). Curiously enough, this addition is made for 'the benefit of readers who are skilled in mathematics.' But it is extremely difficult to see what benefit such readers will obtain from this provision, and still more difficult to see how Einstein's theory can be so easily "destroyed." Any assertions about "space" other than perceptual space will be highly problematical on Professor Driesch's view of perception. But Professor Driesch, in common with some other writers whose interests are

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primarily biological, appears to have a strong dislike for the doctrine of relativity, although it seems to be a dislike founded only on misunderstanding.

Professor Driesch's biological opinions are well known. He believes that certain embryological experiments *prove* that an 'agent' (which he identifies with the soul which knows all about nerves and muscles) is also 'at work' in the developing embryo. It seems astonishing that anyone should suppose that experiments can possibly *prove* such an hypothesis as this. When on page 79 Professor Driesch is writing about certain evolutionary speculations about which he is sceptical, he says: "Hypotheses are most popular in those fields where they cannot be refuted just because nobody knows any better." But he entirely fails to see that precisely the same may be said about his and other hypotheses about development. Because certain experiments disprove certain forms of mechanistic hypotheses, it is clearly impossible to assume that there is *only one* other hypothesis possible which is therefore proved. Because the degree of manifoldness of the developing embryo increases during development, and because this cannot be put down to either environmental contingencies or a fixed machine-like architecture of the egg, Professor Driesch believes that we are compelled to assume the existence of imperceptible soul-like entities which *know* what has to be done to increase the degree of manifoldness and 'in each case do what is necessary.' But it is always open to anyone to deny that the degree of manifoldness is 'really' increased in the developing embryo. To do this he will, of course, be driven to 'postulate' imperceptible parts in the fertilized ovum which gave it a degree of multiplicity equal to that of the mature condition. If this is done, both Driesch's and the mechanistic theory are on the same footing: neither can be verified nor refuted by any appeal to experiment. Dr J. Schultz has pointed out that such a "mechanistic fiction," as he candidly calls it, need not be machine-like in Driesch's sense, and would therefore be quite immune from those experiments which *do* refute the more simple-minded "machine-theory." Hence both theories project the problem of development on to an extrascientific plane, the plane of explanatory fictions. When, therefore, Professor Driesch describes his book as having a 'scientific foundation' this only means that it employs scientific data. The interpretations placed upon these data cannot be regarded as specially favoured by their 'scientific foundation' in the way their author seems to suppose. When we run over the chain of assumptions (some acknowledged and others not), from the first step which was believed to take us out of the subjectivism of 'I consciously experience something' to the supposed real world which is the 'reason' of the something, we seem to have been presented with a great many alternatives, and the ones chosen by Professor Driesch do not seem to be by any means forced upon us. And yet many people, who would be quite unmoved by Professor Driesch's arguments, and would make their choice of alternatives (if they made them at all) in quite a different way, would still subscribe to the admirable ethical maxims with which the book closes. It is in fact curious how closely the writers of the two types above mentioned agree regarding practical ideals—suggesting that the latter are independent of the metaphysical arguments which precede them. These discussions are usually at their best at the beginning where they are analytical and 'intellectual.' The 'non intellectual' topics are dealt with in the language of poetry at the end. In the middle, which is supposed to effect a union, we usually find an incongruous mixture of both. But this is not 'knowledge.'

J. H. WOODGER

JOURNAL OF PHILOSOPHICAL STUDIES

The Universe Around Us By SIR JAMES JEANS D.Sc., LL.D. (Cambridge University Press 1929 Pp x + 352 Price 12s 6d net)

The astronomer of to-day is a bold man. He is not content with describing the motions of the heavenly bodies, and telling us the constituents of their surfaces. He explores the dim recesses of the past—he prophesies the distant future. Observation shows us that the universe does not consist of bodies of all sorts of sizes. First of all we have the extra galactic nebulae of immense size—immensely distant from us and each other. Next come stars of which our sun is one. But stars lie between fairly narrow limits of size. Hardly any of them are less than one tenth or more than one hundred times as large as the sun. Then again the planets are all very much smaller than the sun, and satellites as a rule much smaller than the planets. What mechanism can have produced this state of affairs? Why do we not find heavenly bodies of all sizes?

If we assume a primeval chaos—that is a state of affairs where there is roughly one molecule of matter to very few cubic yards of space—what is likely to happen? The matter is not spaced out quite uniformly, consequently the position is gravitationally unstable. There will be a tendency for the matter to coagulate under the influence of gravitation. But into what? Stars? No. Calculation shows that initially the coagulations will be of enormous size—in fact, that of the extra galactic nebulae. This would be the first step. But these nebulae, or most of them, will rotate with the result that they will become flattened and ultimately as they contract will rotate faster and faster until they eject matter from their central plane. This emitted matter will again coagulate—this time into stars. We can see nebulae which illustrate all these processes before our eyes. Again, calculation shows that stars must be of roughly a certain size. We proceed further to consider the stars—they rotate in certain circumstances the result will be that they break up into two—and again, there are plenty of binary stars to be seen in the sky. Under other conditions they do not break up—but the chance encounter of another star (an almost incredibly rare event) may lead to the production of planets and satellites. Hence, starting from our chaos, we arrive at the universe as it is. There is no evidence for the chaos except that it would produce the right result. But what produced the chaos? It was gravitationally unstable, so that it could not have been there for ever. Hence there must have been a creation for a further configuration which would have been produced the chaos has not been suggested. If so, we are still thrown back on the difficulty who created the creator, and so on. The origin of our universe is dubious and unsatisfactory. What is its future? The modern view is that the matter is gradually annihilating itself into radiant energy. Thus the sun loses weight at the rate of 250 million tons a minute—and this is being dissipated into space in the form of radiation. In this way, as time goes on, most of the matter in the universe will have disappeared—and the energy in the form of radiation spread through space will not be available for doing any work. The end is depressing. Everything in the process has been wasteful.

But if we do not think of the results, but of the methods used by astronomers, the subject is a fascinating one. The union of astronomy and physics is very fruitful. A quarter of a century ago many of the conceptions upon which the modern theory is built up—quanta, the Bohr atom—and so on—were unknown—and it may well be that in another quarter of a century the whole subject will again be in the melting pot—indeed, the electron has already lost its existence. The astonishing thing is that while all we can

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observe is an infinitesimal part of the radiation from the nebular stars and other bodies we can build up so much information about them their past and future as well as their present. But there are many problems waiting to be solved. Some stars are variable they do not shine with a steady light. Further investigation shows that they are of various types. One type is easily explained. The star is a binary and at intervals the light of one component is eclipsed by the other so that the light diminishes for a time and then returns to its former quantity. There are other types irregular variables long period variables and others known as Cepheid Variables. In the latter class the brilliance increases suddenly and then slowly declines it is as if a bonfire were stoked with fuel at regular intervals. The period is never more than a month and may be only a few hours. Miss Leavitt discovered that there was a definite connection between the intrinsic brightness and the period. This enables us to determine the distances of Cepheid variables and consequently those of stars near them in space. The method is applicable where the parallaxes are too small to be observed. But the cause of the variability is unknown. It is suggested that such variables are stars in the act of fission into a binary system. All this however is doubtful. It is a great piece of luck that Cepheids have the property discovered by Miss Leavitt and that they are scattered uniformly through space for it is only by means of this that we can measure the more remote distances.

The future of the earth and the moon is a natural subject of interest. The moon always presents the same face to the earth and as a result of tidal friction the length of the day is increasing so that ultimately we shall have the earth always presenting the same face to the moon. One side of the earth there will be perpetual full moon. The day will be forty-seven times as long as it is now. But all this will not happen before thousands of millions of years. After that the moon will gradually begin to get nearer to the earth and when it gets within the danger zone of about 12,000 miles (Roche's limit) it will be smashed into fragments and form a ring like Saturn's rings. It will be an exciting time for the inhabitants of the earth when the moon is getting to the danger zone.

Sir James Jeans as is well known has a gift for exhibiting his knowledge in popular language. No doubt there is something unsatisfactory in being given results without the arguments though it must be admitted that Sir James is very clever at indicating the lines of argument. Some of the matters are almost too difficult it is very hard to explain the De Sitter Universe in popular language but the general result is a book of great value not merely for the information which it supplies but for the way in which it provokes thought on speculative and difficult matters.

C. P. SANGER

Modern Materialism and Emergent Evolution By W. McDougall M.B. F.R.S. (London: Methuen & Co. 1929. Pp. xi + 295. Price 7s. 6d. net.)

This book Mr. McDougall explains is a supplement to his *Body and Mind* where (he thinks) he had inadvertently neglected what was really one of the strongest arguments for his case viz teleological causation. What he now asserts and elaborates with great conviction and with a host of most interesting illustrations and rather polemical confirmations is the view that Mind wherever and whenever it exists operates teleologically and is thus operative perhaps in all living organisms certainly in man and probably in

all animals" (p. 276) The alternative view, he thinks, is that Man is a Machine, and McDougall, *inter alia*, is concerned to show that it takes a man to design or direct a machine, in short that machines are man made, not men machine made.

The old fashioned Atomic Materialism, we are told, where "matter" had a "simple bullet form," is now pretty generally discarded, and should not have powder and shot wasted upon it. On the other hand, "materialism" and "mechanism" are more, rather than less, prevalent than they used to be, especially in doctrines of the "emergence" of mind from matter. In Mr McDougall's view the "emergent" theories of Lloyd Morgan, Alexander, and Broad show a uniform and signal failure to understand the meaning and the singularity of psychological teleology. Like so many other modern authors, these philosophers are in reality 'crypto mechanists,' whether or not they are aware of the circumstance. And Mr McDougall sets himself to expose this situation, fluently, vigorously, and (very frequently) with point as well as with gusto.

It should go without saying that this discussion will stimulate and hold the interest of a wide circle of readers. Some readers may indeed be inclined to doubt whether "emergence" is quite so elusive and evasive a conception as Mr McDougall evidently thinks it is, but his argument is too massive, and the range of illustrations drawn from his wide acquaintance with the sciences is altogether too impressive to allow such readers to neglect his views. In short, the book commands attention and deserves it.

On the other hand, I am personally bound to confess that the general terms of the discussion seem to me to be unnecessarily (I had almost said mischievously) vague, with the result that the disproof of modern "mechanism," even supposing it to be accomplished, seems treacherous ground for the assertion of interaction (with any confidence), or indeed for any definite theory of the mind body relation. I am also of opinion that Mr McDougall's evident belief that he has vindicated the foundations of materialism and of theology in at least one essential particular is asserted rather than argued. The rather truculent thinness of the argument in the latter respect might, indeed, be excused in a "supplement", and no doubt it is fair to remember that, in the former respect also, Mr McDougall has written much that he has no space to recount in the present volume. Nevertheless, I think there is ground for complaint.

On p. 10 we read "The physical sciences are no longer mechanical, but they are still mechanistic in the wider sense of that word. For we may properly apply the term mechanistic to every explanation or description that traces the sequence of events from past to present, leaving aside all reference to future possibilities in accounting for present process." And on p. 11 we read "We may, I suggest, properly continue to designate as Materialism any and every attempt to extend mechanistic descriptions or explanations to all events that are non-teleological, that take no account of processes of the type with which we are most familiarly and immediately acquainted, namely, our own mental processes. For such a mechanistic scheme of things in general is the lineal descendant and true successor of Atomic Materialism, and, more importantly, it carries the same practical consequences, points to the same general conclusions, namely, a view of the world and all its processes from which Mind as an active factor, a real agent or activity that makes a difference to the course of events, is wholly excluded, save perhaps as a shadowy spectator on the side lines, a spectator whose applause or other comments on the game are not even heard by the players, or, if heard, are wholly unheeded."

So far as I can see, these general definitions are retained throughout the work. Indeed, Mr McDougall seems to take pride in their essential adequacy.

Here, I suggest, he is mistaken. In so far, indeed, as he maintains that the fundamental experience of seeking a goal is *suu generis*, peculiarly significant of the essence of mind, and as good as disregarded by "crypto mechanists" and exponents of "emergent evolution," he may very well be right. The reasons he gives for his essential rightness, however, may be much less convincing.

On p. 190 Mr McDougall appears to hold that the fundamental objection to "goalless" psychological theories is the falsity of their denial of *anticipation*, i.e. of "the conditioning in some sense of present events by future events." In other passages, however, he frankly admits that the operative factor is, not the future itself, but a *present anticipation* of the future (e.g. he admits that an animal may seek eagerly for an exit *when there is no exit*). It is therefore evident that no mere general reference to the distinction between a *tis a tergo* and a *tis a fronte* settles the issue, and it is not at all evident that the *present anticipation* cannot be a *tis a tergo*. Goalful experience does not, indeed, *feel* the same as either goalless drifting or as a kick from behind, and perhaps this difference in the feeling implies an ultimate scientific and metaphysical distinction of the greatest moment. The question, however, is subtle, and I do not think Mr McDougall treats it subtly. Indeed, he frequently speaks as if any reference to the future were in itself inconsistent with "mechanism." And this seems absurd. It is quite possible, I concede, that "mechanism" and "materialism" cannot even begin to explain any mental characteristic of importance. But if Mr McDougall's spectator on the side lines is admitted to understand the meaning of present and past, why on earth should he be debarred from referring, in his idle way, to the future? If he is aware of an order of earlier and later in the past, how can he avoid seeing that there will be something later than the present, and if his past experience was of determinate sequences, why in the world should he not form otiose expectations of a determinate kind?

Another point of considerable difficulty concerns the wide range of teleology (which extends to all Life, as may be seen, e.g. in the characteristics enumerated on pp. 66-67) and, as Mr McDougall evidently thinks, the comparatively narrow range of Mind. "It would be absurd," Mr McDougall says on p. 116, "to attribute teleological or purposive intelligent action (which implies, as we have seen, always a considerable degree of organization) to electrons." A mechanist who denied a considerable degree of organization to human beings would be rather hard-shelled, and he might not be worth listening to if he denied a considerable degree of organization to electrons. But let these points pass. If it is absurd to attribute "teleology" to electrons, why is it reasonable to attribute it to plants? Mr McDougall (who, if I am not mistaken, never mentions plants specifically at all) would like to say that there is no good evidence of goalful seeking in plants, but dare not say so because vital persistence, adaptation to obstacles, etc., is shown by plants. What he does say, as we have seen, is that there is certainty of teleology in our own case (because of the unique experience of striving), very good evidence for it (by analogy) in animals, and very inferior evidence regarding other living beings, i.e. regarding plants. The evidence for persistence with varied effort, power of reproduction, etc., however, is just as good in plants as in animals. In short, this author's confident reliance upon "psychology" (in the sense of conscious human personal experience) here plays him a scurvy trick. In his pages Life and Mind are constantly impersonating one another, because he constantly speaks as if "mind" and "teleology" were identical. Nevertheless

he also holds that while, in one sense of 'teleology,' potatoes are just as teleological as men are, in another sense of 'teleology' (i.e. conscious striving or, perhaps, intelligent striving) there is very good evidence of 'teleology' in the case of men and no evidence worth speaking of in the case of plants.

The main argument of the book is set forth in 161 pages, and there are 121 pages of Notes succeeding the main argument and printed in very small type. Thus the notes form the longer part of the book, and also (for those who are not mere beginners) the more interesting and informative part of the book. This method is something of a literary crime, but it has certain advantages for students and was presumably adopted because the six chapters which constitute the main argument were delivered as lectures in the Louisville Presbyterian Seminary.

The book is disfigured by an exceptionally large number of misprints, most of which seem of the sort that are probably attributable to the author's negligence. Thus reference is made repeatedly to Mr 'A D' Broad, whose initials (so far as I have observed) are correctly given only once on p. 112 note. Similarly on p. 125 we are told about a certain 'Sir J. J. Jeans,' perhaps because of some mnemonic confusion with the initials of the present Master of Trinity College in Cambridge.

JOHN LAIRD

Matter, Life and Value By C. E. M. JOAD (London: Oxford University Press Humphrey Milford, 1929. Pp. xviii + 416. Price 18s. net.)

Mr Joad has certainly given us a very attractive and stimulating book, and one that shows a real knowledge and mastery of the subject. Despite its length, it should retain the reader's interest throughout and be of great value to the student for its statement and criticism of conflicting views. The author's own conclusions are naturally more disputable, and on many points here I feel that the grounds given cannot be regarded as sufficient to overthrow alternative views or the treatment as thorough enough for such an ambitious project as that entertained in the book. But I have no hesitation in recommending it to all those interested in philosophy.

The main aim of the work is to expound a theory according to which reality falls into three independent divisions—matter, life and value with perhaps subsistent objects other than values as a fourth. It opens with a criticism of materialism and mechanism insisting that we cannot treat a living body as mere mechanism because "up to a late stage of development every cell must possess the potentiality of turning into any other," a property which would be unthinkable in the case of a machine. But having established life as an independent principle, Mr Joad refuses to follow the lead of those philosophers who try to explain everything by means of it and insists in general that we must recognize a plurality of different and independent kinds of beings and should not try to reduce all these kinds to variations of one but do justice to them all. He defends pluralism against monistic arguments e.g. from the nature of relations and insists that the monists cannot escape from their difficulties by making the plurality an illusion without by that very view introducing a real plurality in a different form for in that case there is real error, and the real contains a plurality again i.e. both error and truth. He rightly points out that relations presuppose terms to be related whose nature is not itself constituted by the relations, but his arguments do not seem to threaten the more moderate forms of monism. His view of knowledge is thoroughly realistic, and he takes the mere fact that we are aware of some-

thing as evidence that this something is independent of our minds, since knowing cannot change its object, a misapplication of a valuable doctrine which would lead him into hopeless difficulties with images and introspection if he did not cut the knot by denying both. "Mind," he says, "is bare activity. This activity is that of awareness, and one mental act is only to be differentiated from another in terms of the objects upon which the awareness is directed. There are, in other words, no mental entities such as ideas, images, or thoughts of the kind which are loosely described as states of mind; there is only mind and the different objects of which mind is aware."¹ If there are no 'states of mind' one wonders how psychologists other than behaviourists can even imagine they study these and the bold reduction of mind to mere cognition is never adequately justified. Further, we surely need not conclude that, because knowing as such does not change its object, therefore we cannot know objects which are dependent on us *otherwise than in respect of our knowing them*. Again surely the author is going much too far in his refusal to apply causality to mind. It is not the mere application, but the *universal* application of causality to mind that seems to constitute a danger to freedom, even from the standpoint of the indeterminist himself.

The place of mental existents, such as ideas, is, however, taken by 'subsistent objects' i.e. what is asserted or thought in all judgments, true or false, as distinguished both from the reality of which it is asserted and the asserting of it. Physical objects are reduced to combinations of sense data (as in various 'New Realist' theories), it being argued that it is unnecessary to suppose anything else beyond the sense data to cause them, but this does not make for idealism, as the sense data are conceived as existing even when not perceived by any one.

The latter half of the book deals with values. The author not only defends the objectivity of the good and the beautiful, but takes the less defensible step of passing from the view that these are objective qualities independent of our thinking them to the view that they constitute a realm of Platonic Ideas quite separate from the world with which we are normally concerned, nor does he show why the alternative views which defend their objectivity without going to this length will not hold water. It is not only that he makes these universals transcendent—a view for which, whether right or wrong, a great deal may be said—but that he does so in a way which makes it impossible for them to be also immanent in particulars. But surely it is at least as authentic a dictum of the moral consciousness that there are particular good things in our experience as that there is a transcendent goodness beyond that experience of which we catch faint glimpses. It seems to me quite impossible to separate absolutely "the world of life" and "the world of value" as if values were not themselves realized in life, though of *still of course* may be true that there are higher values of a kind quite different from any experienced by us, and that it is a faint and confused anticipation of these values which gives beauty to art and points our way towards the next stage in human advance. The positive part of the author's doctrine may well be tenable, but the negative part, the denial that values are also immanent in the second great division of reality, life, conflicts with every particular moral or æsthetic judgment we make. We have here, however, a very interesting and valuable account of the relation of man to this realm of value and of the function of the poet and genius as bringing us in touch with it. Nor is there a lack of interesting and suggestive discussions of other problems by the way, especially in the realm of æsthetics.

A. C. EWING

Biological Principles A Critical Study By J H WOODGER, B Sc (London)
Kegan Paul Trench Trübner & Co 1929 Pp xii + 498 Price 21s)

Mr Woodger draws a fairly sharp contrast between the progress of detailed investigation into biological facts and the systematization of those facts in biological theory and while he has little or nothing to complain of in respect of the former, he regards the latter as uncritical confused, and backward. The main object of his book is to help toward a clarification of theory by bringing to light the multiplicity of conditions which must be reckoned with before a theory can be satisfactory. He does this in a clear and vigorous statement of issues, logical, epistemological, and philosophical, pressed home by acute and sometimes truculent criticism of actual statements made by highly reputable biologists in serious treatises. It is well that it is a biologist who thus criticises biologists: the intrusion of a pure philosopher into such a field in such a way might be resented.

In a paper read before the Aristotelian Society last year Mr Woodger classified biologists as mechanists vitalists or biological biologists. The 'biological biologist' endeavours to find conceptions, neither purely mechanistic nor purely vitalistic, which are appropriate to the kind of facts met with in biology. Mr Woodger as may easily be guessed is a 'biological biologist.' Mechanists in biology he accuses of being on the whole unaware of the nature of the changes which have taken place in physical science during the twentieth century, their physics is the physics of the nineteenth century. They are quite vague as to what they mean by mechanism and make no attempt to define it. What their attitude really involves is a persistent attempt to investigate the properties of organisms by the methods of chemistry and physics (which Mr Woodger regards as sound, from the point of view of investigation) along with an attempt to give a theoretical account of those properties and of their interrelations (which so often involves recourse to hypothetical non-observed or non-observable entities) in purely physical and chemical terms. It is this which Mr Woodger objects to.

We can perhaps best bring out the ground of his objection to physico-chemical hypotheses in biology by saying that in his view such hypotheses, even when regarded as mere phenomenological devices for the registering of fact, are too dogmatic and not empirical enough. Phenomenology (in the sense in which it is referred to here) tries to restrict itself to phenomena—things that appear—without reading into them anything from outside. It does this in the effort to avoid error. But in order to handle the tangle of appearances it allows itself to use devices, such as the picture of a gas as a multitude of small elastic particles colliding with one another or of a chemical substance as a complex system of atoms, and so on: these devices not being regarded as representing anything actually existing behind phenomena but merely serving to correlate the facts that present themselves. Now phenomenology as professed by the average scientist, is liable to err in two ways. Firstly it tends to be dogmatic about the kind of thing that appears. It tends e.g., to insist that only such things as patches of colour, sounds, touches tastes smells, etc., with their immediately given spatio-temporal relations appear. Secondly, it tends to be dogmatic about the kind of device which will prove useful in dealing with the succession of appearances. The result of this double dogmatism is to take the scientist away from a true empirical method, while giving him a false sense of pursuing it. What Mr Woodger wants to do is to bring biology back to a truer empiricism, which shall not approach the facts with any preconceived view as to the kind of method or the type of conception, which is likely to prove valuable, but shall elaborate methods and conceptions in view of the facts themselves.

One or two instances will illustrate his point of view. An organism is an event which is not only spatially but also temporally extended. If you separate its time dimension from its spatial dimensions you find yourself with various artificial antitheses which a true empiricism will avoid. The spatial aspect separated from the temporal leads to stress on the organism as a complex structure; the temporal aspect taken as predominant leads to stress on the varied functions of the parts of the organism in relation to the function of the organism as a whole. The problem then rises whether structure determines function or function determines structure—a problem impossible to solve since neither taken by itself really exists in the organism. What is required is an enlargement of our conception of structure so as to include and recognize that in the living organism it is not merely a question of spatial structure with an activity as something over against it but that the concrete organism is a *spatio-temporal* structure and that this spatio-temporal structure is the activity itself (p. 330). Again to separate the spatial from the temporal aspect is to encourage stress on one stage of the organism—whether the adult or the embryonic stage—and to endeavour to interpret the one in terms of the other thus giving rise to the formidable problem of whether there is anything to be found in the adult stage which was not already present in the embryonic stage and how if there is the new elements come to be present. This problem is made still more difficult when stress is laid on the spatially separate parts of the organism and it is assumed that the spatio-temporal organization of these parts is to be somehow explained in terms of the natures which the parts themselves are discovered to have in separation from the organism. Organization is to be regarded as at least as fundamental as the parts entering into the organization. Forget this try to derive the organization from the nature of the parts and you falsify the situation.

One of Mr. Woodger's objects then is to give prominence to organization regarding it not indeed as a causal agent but as an integral aspect of the organism not derivable from the nature of the parts. He notes certain types of relationship which are important for the study of the organism viz (a) those holding between the organism and its environment (b) those between an organism and other organisms (c) those between the various parts of an organism and (d) those between the organism as a whole and a given part and proceeds. It should be possible to state the essentials of biological knowledge with reference to such a scheme of fundamental relations and the relata which are found to stand in them without any theory about what an organism is just as it is possible to state the results of physics without any metaphysical theory about what matter is or what energy is. This would be pure biology (277). But he proceeds while to a large extent this has been done in biology there have been intruded into this general scheme points of view resulting from the existence of traditional biological antitheses (such as that between structure and function preformation and epigenesis teleology and causation). And he concludes.

If such a presentation as the above (pure biology) could be combined with all that is best on the *critical* side of the various traditional views we should be much better able to assess the precise status of the traditional controversial theories and to see what concepts were required for the purposes of further generalization (277).

This then is his main purpose. There is a long introduction in which an account is given of the nature of science of the relations between the sciences and philosophy and of the general nature of explanation. Part I then proceeds to deal with problems of theory of knowledge in so far as they affect science

in general. In Part II the results of this discussion are applied to the central problems of biology.

Mr Woodger has a broad and solid equipment of philosophical knowledge to fit him for his task. His book owes much to the philosophy of Mr Whitehead and to the critical discussions of the modern realists. It is very long, extending to 488 pages of text, and I cannot help feeling that it might with advantage have been shorter. But this is perhaps only a personal dislike for long books. Its length is due to the writer's fullness of his subject and not to any confusion of thought, and the arrangement of the book will enable readers to concentrate on those sections in which they are more specially interested. It is true that Mr Woodger warns them against this, but readers must be allowed to take their own risks.

L. J. RUSSELL

Pascal's Philosophy of Religion By CLEMENT C. J. WEBB (Oxford at the Clarendon Press, Humphrey Milford, 1929. Pp. 218. Price 6s. net.)

These lectures delivered in 1926 are published. The writer confesses not without hesitation, as perhaps one should only choose for detailed discussion those great men who have evoked in one's own soul a special sympathy or from whom one has been able to learn most, but Pascal is not to me especially sympathetic, nor is he a teacher to whom I feel myself under a peculiar obligation. But the fact that he is a thinker whom some historians of philosophy almost ignore while others exalt him to the highest ranks among those who have handled the profoundest problems of human nature and human destiny may make an attempt to estimate his true position in this respect not uninteresting to students of the Philosophy of Religion, and as such an attempt I offer this little work to their consideration. (Preface.) One student of the Philosophy of Religion has given this little work the consideration which it invites, has found this attempt not uninteresting, and can cordially commend it to the consideration of others.

In the *Introduction* (I) Pascal and Bacon are compared to show that despite their greatness neither can be held to possess the peculiar qualification of the philosopher in the strict and proper sense of the word, namely that primary interest in speculations on the ultimate structure of reality for the mere sake of knowing what it is. (p. 6.) In the discussion of the relation of *Pascal and the Thought of his Age* (II) there is a valuable comparison with Descartes. It was with Descartes' science and Descartes' acceptance of the obligations of religion that he was in sympathy; his philosophy rather repelled him. Montaigne was attractive to him just because he was not in a technical sense a philosopher at all. (pp. 23-24.) A comparison of *Pascal and Kant* (III) seeks to prove that while Pascal's position and Kant's are sufficiently akin to compel us to raise the question whether we can grant to Kant the name of philosopher while withholding it from Pascal, yet Kant's pains-taking criticism of our whole cognitive faculty and his effort to explore the contents and describe the nature of his moral consciousness with as far as he could achieve it complete freedom from prepossessions. (p. 28) justify us in granting him that title. It is shown that Pascal's position is best described as *Evangelical* (IV). The *prophetic* in contrast with the *philosophical* conception of God marks him, since his concern is with a religious experience of *personal relation* to God, which is more akin to Protestant piety and shows no tendency to pantheism as has the *mystical type*. He opposes *le cœur* to *la raison*, but holds that *le cœur a ses raisons* and assigns *instinctive belief*

and intuitive knowledge alike to *le cœur*. Pascal and Newman "live in common a profound interest in those processes of the mind which, while leading to conviction, are carried on below the level of deliberate ratiocination" (p. 47). "We find," says Webb, "a profounder consciousness in Pascal than in Kant of what we may call the history (or, if we like, the psychology) of our moral consciousness, but a far less clear grasp of its essential nature as a consciousness of unconditional obligation, such as can only be laid upon us by a law intuitively recognized as good in itself not merely as commanded by a superior or as conducive to our happiness." This defect led Pascal on the one hand, "to flout his moral intuitions when they conflicted with what tradition led him to regard as revealed truth," and on the other to lapse "into what appears, at first sight at any rate, to be in principle a sheer eudæmonism or utilitarianism, strangely out of keeping with the austere and self-sacrificing piety of Pascal himself" (p. 48). In what is described as *Pascal's Wager* (V) belief in God, of whose existence no proof can be given, is based on an appeal to self-interest. "Let us weigh the profit and loss involved in betting on the existence of God" (quoted p. 52)—eternal happiness or eternal misery. William James puts the same kind of argument in a less offensive way, for by him "this Supreme Good is not described eudæmonistically, nor is the alternative to losing it depicted in terrific colours" (p. 56). Kant here shows to advantage against Pascal, as he subjects religious tradition to a moral scrutiny. Pascal "declines to rest his faith in God on any grounds which ignore or abstract from a specifically religious experience," and shows a peculiar impatience with the *Argument from Design* (VI). His theism is entirely based on the Christian revelation of *The Fall of Man* (VII) and the Recovery in Christ. "The pivot upon which Pascal's philosophy of religion turns" is "the acknowledgment of original sin and the consequent alienation of man from God," and "the necessity of such a Mediator as the Christian Religion proclaims Jesus Christ to be" (p. 65). To such a view a striking contrast is presented by Absolute Idealism. There "the question really at issue . . . is the standing in reality to be assigned to the individual personality" (p. 85). Although Pascal was in no sense pantheistic, yet he tends to a depreciation of personality (VIII) in his "denial of real and relatively independent value to any other spiritual activities than that which is expressly religious or God-directed" (p. 89). "God has made man with two loves," says Pascal, "one for God, the other for self—with this law, however, that our love for God should be infinite, that is without any end but God himself, but our self love finite, and leading beyond ourselves to God" (quoted p. 89). While this is true, yet he seems to contradict the New Testament in his "sdenice about the love of one's neighbour." Here Kant and Pascal seem to be in agreement, for "neither finds any great worth in our affections for particular individuals. They seem to the one to belong to a region lower than that at which reason presents to every being capable of apprehending a law of universal obligation; to the other to be apt to divert from its proper object the love due from us to God alone." Von Hügel recognizes that "most of us are right in valuing very highly our special attachments and also that there may be . . . a call to some to renounce them and devote themselves exclusively to the cultivation of the love of God" (pp. 91-92). Pascal does not allow this alternative, for "in a fallen man even the instinctive love of self has become irrational." This type of asceticism, however, "is to be traced rather to the philosophy of the Cynics and the Stoics than to the New Testament" (p. 93). In contrast to the darker side of Pascal's philosophy, his "doctrine of the hatefulness of self" is his teaching about *Grace* (IX). For him "the love of God is the very essence of the Christian—of the true and final—religion" (p. 97). Accordingly he was opposed

to "the presentation of Christianity by the influential Jesuits of his day," for "he can find nothing of religious value in the presentation of Christianity which entertains the possibility that the salvation which it promises is to be obtained without such love really present in the heart" (p. 97). While "the controversy about grace" in the *Lettres Provinciales* "is not in its details of any great importance for the understanding of his philosophy of religion," yet he engaged in it "because he thought that the Jesuit teaching was dangerous to morality and disgraceful to religion" (pp. 99-100).

The estimate of Pascal by the author may close this review. 'Pascal was a religious genius with a style of extraordinary distinction. He was also a great man of science, in the first rank among the *savants* of an age in which scientific knowledge was advancing with rapid strides and in which many remarkable intellects were devoting themselves to its advancement. But he was not a great philosopher, even if we look at his reflexions upon the profound religious experience which he unquestionably enjoyed, it is not exactness of thought (despite the reminiscences of mathematical method which colour his language) that distinguishes them, but the tragic sense of sin, the passionate aspiration after God, the no less passionate devotion to the Redeemer to whom, as he says 'he stretches out his arms' and in communion with whom when met and embraced, he enjoyed a like rapture of devotion to that which inspired the immortal apostrophe'

Jesu, spes pœnitentibus,
quam pins es petentibus
quam bonus te quærentibus,
sed quid invenientibus?" (p. 114)

The incisive style, the variety of comparison of Pascal with other writers, the sympathy with the spirit of Pascal, enhance the value of the book.

ALFRED E. GARVIE

Joannis Saresburiensis Episcopi Carnotensis Metalogicon Libri IIII recognovit et prolegomina apparatu critico, commentario, indicibus instruxit CLEMENS C. L. WEBB, A.M., LL.D. (Oxonie Typographeo Clarendoniano mcmxxix Pp. xxii + 239 Price 20s. net)

A critical text of John of Salisbury's *Policraticus* was published by Professor Webb in 1909 (Clarendon Press). The present work, therefore, completes the task which he undertook more than thirty years ago, and of which he outlined the scope and need in a paper read to the Aristotelian Society in 1893. The *Metalogicon* purports to be a defence of the course of profane studies which were pursued by those seeking a higher education in the eleventh century. St. Bernard and Walter of St. Victor held in light esteem all studies save theology, and deprecated the incursion which philosophers such as Abelard, had made into its sacred domain. Another, however, of whom John of Salisbury gives a descriptive *personæ*, *suppressio nomine*, and whom he calls a *novus Cornificius*, is the chief opponent which the defence has in view. Possibly it was Reginald the monk. It matters little, for the chief value of the work is not controversial, but historical. John of Salisbury was not only well acquainted with, and competent to expound, the philosophical theories which were current in his day, but also he knew personally most of those whose views he discusses—Abelard, Gilbert de la Porrée, William of Conches, Hugh of St. Victor, and St. Bernard. The *Metalogicon* gives us an account, at once historical and critical, of what

they taught with regard to the function of grammar and logic, the nature of universals, and similar topics

Professor Webb's edition is based mainly on the Cambridge Codex (Corp Christi Coll., 46), which he has collated with MSS in the Bodleian and British Museum. Where the readings are different, this is indicated in foot-notes, which also afford valuable information as to the source of many of the expressions used, and as to who are the persons referred to in the text. A list of the authors cited in the *Metalogicon* is given in the Introduction, but for an account of the MSS used we are referred to the Introduction to the *Polycraticus*. There is an Index of Proper Names, a one page Index of Words, and a long and useful Index of the works cited either by the author or by Professor Webb in illustration. There are also four pages of *Addenda et Corrigenda in Polycratico*. The actual text does not differ materially from that of the *Opera Omnia* published by J. A. Giles in 1848 save that for *ae* we have *e*, and for *v* we have *u*. On page 120, line 11, one would have expected *se* in place of *sed*.

L. J. WALKER

A Manual of Psychology By G. F. STOUT, M.A., LL.D. Fourth Edition Revised, in collaboration with the Author, by C. A. MACE, M.A. (London: University Tutorial Press, Ltd. 1929. Pp. xix + 680. Price 12s. 6d.)

The announcement of a new edition of the *Manual of Psychology*, coupled with the information that it would not be the work of Professor Stout, caused some apprehension in the minds of teachers of psychology. "There is nothing to equal it, better leave the old edition as it is than spoil it by patches and omissions," was the thought in the minds of many. Now that the new edition is in our hands, most of us will be glad that the revision was undertaken. First because it has drawn from Professor Stout himself the restatement of a cardinal doctrine, and secondly because Mr. Mace has performed his task with the greatest skill.

The format of the new edition is more convenient than the old. The use of thinner paper and longer lines has reduced the volume to less cumbersome dimensions. The division of sections into a larger number of paragraphs has rendered the appearance of the page more "readable."

The total amount of matter omitted from the third edition is not great. The doubtful localization of centres for imagery has been omitted in the rewritten account of the functions of the cerebral hemispheres, the definite summing up in favour of psycho-physical parallelism has been dropped in the discussion of Body and Mind, and the familiar classification of "kinds of attention" has disappeared. Many passages have been condensed. The changes made are changes in the order of the chapters and in the arrangement of topics within the chapters. The greater number of them occur in Book I and Book III, Pt. 1.

Mr. Mace tells us in the Preface that such changes are for the convenience of students, "to enable essential points to be introduced as early as possible, and to bring closely connected topics into a single chapter." Thus the matter relating to sensations and images is collected into one chapter and placed immediately after the chapter on the "Ultimate Modes of the Relation of the Conscious Subject to its Object." There is an advantage in bringing out the connection between sensations and images, but there is a certain disadvantage in dealing with images before discussing retentiveness and per-

ception It is, however, pure gain to have the two themes the "affective tone of sensations" and "pleasure pain" portmanteaued into a single chapter and placed after "Emotion" It also makes for clearness to have a new chapter "Practical Conative Activity," wherein certain topics from the old chapter "Attention" and from the chapter "Primary Laws of Mental Process" are brought together This enables the chapter on the primary laws to be renamed "Retentiveness" "Perceptual Process and Learning by Experience" is placed before "Instinct" This reversal of order puts instinct in its place both figuratively and literally In the third edition it appeared as an interloper In the chapters of Book IV Mr Mace has made little or no change

Coming to details, one may note the disappearance of the ambiguous word presentation It is replaced by 'thought,' "experience," "sensation," according to the sense of the passage The broadest form of reference to an object is now consistently termed "thought" and the term "simple apprehension" is dropped The use of the words "individual experience" frees the term "immediate experience" for a more precise use, viz in contrast to thought Mr Mace calls attention in his preface to the substitution of a paraphrase for the term "conditioned" previously used of sense experience to express its relation to something other than itself In keeping with present fashion is the reference to all authorities by the bare surname

Turning to new matter, we may notice first the more important of Mr Mace's own contributions In his preface he refers to the close connection, which has been widely recognized between Professor Stout's general standpoint and the psychology of the *Gestalt* school The influence of *Gestalt* psychology on Mr Mace's revision can be seen in his section on the "perception of form," which incorporates the material of the old section on "change sensations" The same may be said of the interesting section dealing with clearness and distinctness under the heading "effects of attention" and also of the section on "the unity of the presented field and the unity of the response" The section setting forth the difficulties of the introspective method is a welcome addition, as is also the section on 'unconscious mental states' Perhaps the most important new contribution made by Mr Mace is the section on 'the modification of specific tendencies' It occurs at the end of Book I in the chapter "Practical Conative Activity" One could wish that it had been placed in closer connection with conative activity at the perceptual level The further section distinguishing primary and secondary or derivative tendencies is interesting Over and above dependent derivative tendencies, such as nut-hoarding dependent on nut eating, Mr Mace ranks persistence with varied effort and intensification of effort as secondary independent tendencies attendant on success and failure Why these are regarded as secondary tendencies supervening on the primary and not as changes in the primary tendencies themselves, it is hard to see Both primary and secondary tendencies are shown to be important in reference to the affective tone of a situation Particularly helpful in preparing the way for Professor Stout's restatement of the problem of the perception of the external world are the sections on "objects which are actually experienced," and on the distinction between 'immediate experience and immediate knowledge' (introduction, Chapter I)

By the addition of footnotes Mr Mace has brought some of the modern work on sensation into relation with the text in Book II Readers may be tempted to regret that more of the recent experimental work has not been introduced into these chapters Yet on reflection one will see that while it is comparatively easy for a student to supplement the *Manual* by an experimental textbook, it would not have been easy to keep the balance of the

whole book had this part of it been extended and extended it would have had to be since there is nothing in the present systematic treatment of the several classes of sensation that the student could afford to lose

Finally we may consider the three passages rewritten by Professor Stout himself. The first makes clear the distinctive use of the word *consciousness* when this is used in a narrower sense than the word *experience*. Such a narrower use would be exemplified in the denial that sensations are states of consciousness and the assertion that they fall within the unity of an individual's experience. The second passage is a restatement of the doctrine of local signs. It follows *Extensivity* as a subheading in the section on the attributes of sensation. (c) *Place-differences and Local Signs* (the *e* is clearly a misprint for *e*). Place-differences are treated as depending upon differences in local signs. Local signs are qualities or subqualities which vary independently of the nature of the stimulus according as this or that part of the sensitive surface is affected. The ground for this diversity of local signature is to be found in the fact that no two portions of the sensitive surface of the body are anatomically quite alike. The rewriting of the paragraphs has given rise to a slight misfit between Professor Stout and Mr. Mace. The new paragraphs do not contain as the old ones did any reference to the place differences due to central not peripheral conditions and thus do not prepare the reader for the distinction drawn later between local signs proper and local colouring due to anatomical differences in the sensitive surface. Mr. Mace in discussing Dr. Head's experiments in the chapter on Cutaneous Sensations makes a point of this distinction and stresses the central conditions involved in place-differences or local signs proper.

The outstanding contribution is the rewritten chapter introducing Book III Part II. The Problem of the Growth of Perception of the External World. Professor Stout's views on sense-data and the qualities of physical objects have gained much in clearness from this restatement. They have also gained from the consonant changes introduced by Mr. Mace in relevant passages and from his delineation of the problem of perception in the preface. The chapter opens with a statement of the precise meaning to be given to the words *physical*, *material* and *external* in reference to the world perceived in sense-perception. Our knowledge of the material world is said to depend on two main factors: the sense factor and the activity factor. The activity factor is essentially involved in our apprehension of the independent reality of physical things and their qualities. What is independently real is independently active and passive (p. 408). Such apprehension is shown to be bound up with our knowledge of the embodied self. The sense factor presents the material nature of the physical object so that it introduces it or makes it present to thought. But in knowing it I do not actually experience it. Hence it can be present only to thought in the sense in which thought is contrasted with immediate experience (p. 411). Here the distinction drawn in the early chapters between immediate experience and immediate knowledge is fundamental as is also the distinction between immediate experience (sentience) and thought. The single percept is not apprehended as self-contained in isolated independence. It has an original meaning in as much as it is related to a context (p. 412). Thus sense experience involves embryo awareness of unity. Specific forms of unity are differentiated with the growth of perception. The psychologist has the task of tracing their development. A supplementary note to the chapter brings out the philosophical implications of this teaching. Neither text nor note shows any real change in Professor Stout's view of sense-data and the qualities of physical things and many who previously found difficulty in his doctrine will find difficulty still. The doc-

trine of continuity between "the field of sensible appearance" and "the field of physical existence" may be unacceptable. Be that as it may, the difficulty now, in view of the restatement, cannot be due to any failure to understand the psychological account of sense-perception based thereon.

Whatever gains there may be in clearness in the revised edition, the *Manual of Psychology* remains a "stiff" book. It demands slow and careful reading, and is more suitable for the honours than the pass student. Yet no other single book is so well worth a student's while. Among the psychological treatises in English it is in a class apart together with Ward's *Psychological Principles* and James's *Principles of Psychology*, and is at once more comprehensive and more systematic than either.

BEATRICE EDGELL

Creative Imagination Studies in the Psychology of Literature By JUNE E. DOWNEY International Library of Psychology, Philosophy, and Scientific Method (London: Kegan Paul, Trench, Trübner & Co. 1929. Pp. viii + 230. Price 10s. 6d. net.)

Professor June Downey has brought together a number of topics not elsewhere to be found within the covers of any single book. As the sub-title indicates, the volume is a collection of essays rather than a systematic treatment of a central theme. The twenty-seven chapters are divided into seven books, but it is not always easy to recognize the principle of division.

Book I is a discussion of the factors upon which the enjoyment of poetry may be said to depend. Book II is entitled "The Imaginal World," and deals with the variety of sensory imagery. From her own study of will temperament and of imagery Professor Downey is led to suggest that there may be a connection between the temperamental characteristics of an individual and the characteristics of his imagery, its kind, wealth, and controllability.

Book III deals with the World of Words. The topics included here are the varieties of imagery involved in thinking and in silent reading, the influence of 'the word in itself' on the reader, and the influence of the writer's own variety of imagery on his writing. This topic leads on in Book IV to a discussion of "The Method of Style." The author agrees with those who have severely criticized this method of inferring the contents of a writer's mind from the imaginal reaction of the reader. Even when the method is metamorphosed into a statistical word study, as it is by Groos, it is not free from error. However carefully an author's vocabulary may be indexed, a list of his choice of words is not a revelation of his store of mental imagery. Miss Downey herself has made a study of style from a different standpoint. She has studied the effectiveness of given passages in raising imagery in the reader by direct or indirect suggestion. Her chapter on the use and effectiveness of words connoting colour is a very interesting one, as is also the one on literary synaesthesia or the concordance of the senses. The chapter wherein the technique of the poets Vachel Lindsay and Amy Lowell is discussed, though suggestive, is too brief to be satisfactory as a psychological study. The same may be said of the introspective snapshot contributed by Mr. Wilson Clough.

The topics brought together in Book V form a miscellaneous collection. There is a chapter on rhythm, showing the bearing of Gestalt psychology on rhythmic patterns. There is a chapter labelled "The Logic of the Emotions," describing the diffusion of emotional tone over a whole situation or its transference from one situation to another, or again its crystallization round some incident or object which thereby becomes symbolic. An organization of

emotions is described as "conceptual." The use of logical terms in this connection seems unfortunate. The two chapters, "Metaphorical Consciousness" and "Cartooning Consciousness" are both valuable. The former, as the name denotes, discusses the substitution of one idea for another, the drawing of comparisons and the transition from idea to idea. The latter describes the selective operation of intellect in picking out a salient feature, exaggerating or repeating it to heighten its effectiveness. The respective rôles of these two different movements of thought in literary composition offer a fruitful field for research and Professor Downey makes some very suggestive comments in her treatment of this topic.

In Book VI the author takes up the difficult question "The Springs of Imagination." She brings the teachings of the Psycho-analytic school into touch with those of the Configurationists (Gestalt psychology). She is unable to accept the Freudian conception of creative imagination viz., that it is a compensation mechanism. She asks pertinently, "Are all illusions all idealistic reconstructions of life in terms of eternal values merely symptoms of failures to adjust to first-hand reality?" In a perfectly hygienic and normal world in which there were no poor, no sick, no bachelors nor spinsters, no widows, no maimed, no childless, would there be also no art, no poetry, no religion?" (p. 163). In her view the imaginative person differs from the unimaginative in the wealth of material at his command and the freedom with which he can use it. It would be well to stress the second clause. She refers to Professor Lowes' study of the wealth of material at Coleridge's command, but to transmute that material into the poem of *The Ancient Mariner* was needed the imagination which "dissolves, diffuses, dissipates, in order to recreate." Accounts given by different writers of the manner in which their poems and stories shape themselves furnish useful data for psychological study. The final book is entitled "Literary Subjectivity and Objectivity." It includes a discussion of empathy, introjection, and self projection. Mr. Bullough's conception of "distance" is accepted as essential for æsthetic objectivity. The outlines of three great stories with the same climatic event are used to exemplify "the various devices by means of which life is transformed into art." A further chapter is devoted to the means a writer may employ to secure rapport or to establish a hypnotic influence over his readers. The last chapter is a brief sketch of "introverted art," wherein the conventions of space, time, or grammar are laid aside in the endeavour to reveal to the reader or spectator the ideas and emotions of the characters.

Professor Downey's book may not have revealed the processes of creative imagination, but it is a contribution to the psychology of literature, and is helpful both to the psychologist and to the student of æsthetics.

BEATRICE EDGELL

Moral Law and the Highest Good By E. MORRIS MILLER, M.A., Litt.D.
(Melbourne: Macmillan & Co., Ltd. Melbourne University Press
1928 Pp. ix + 235 Price 6s. 6d.)

The purpose of this little book by the Professor of Philosophy in the University of Tasmania is better expressed by its sub-title, "A Study of Kant's Highest Good," than by the main title. It is a careful and close examination of Kant's moral theory, based in the main on the *Critique of Practical Reason*. Other works are only dealt with by way of illustration of the points raised in the discussion of the principal subject of the treatise. There is little mention of the *Fundamental Principles*, which is, perhaps, a

erty. On the other hand passages from less familiar works such as the *Religion Within the Limits of Pure Reason* and the *Critique of Judgment* are brought in very appositely on occasions in explanation of some particular argument. The discussion covers the main points raised in the second Critique Moral Law and Freedom the Idea of Duty Kant's notion of the *Summum Bonum* and the relations of Virtue and Happiness and the postulates of Immortality and the Existence of God.

Within its limits this is a careful and thorough piece of work which repays close study. It is not always very easy reading particularly in the earlier part but that is hardly to be expected. Kant made too easy would not be Kant. It is perhaps not a legitimate criticism that the limits seem to have been rather closely drawn but one would welcome a little more in the way of general summary and also perhaps a little more in the way of tracing the relations of Kant to other views. A definite weakness seems to me to lie in the author's attitude towards his subject. He seems to regard it as part of his duty to act as advocate for Kant on almost every debatable question though even he finds a few points on which Kant is open to criticism. But his general aim is to defend him against all criticism and I cannot feel that he always realizes the full force of the criticism that he is trying to refute. A particular instance of this is to be found in his discussion of the connection between virtue and happiness a point on which it is very difficult to acquit Kant of trying to combine elements which on his own principles are not compatible with one another. I fancy that an inquiry into the reason that led Kant to try to bring these disparate elements together would be more fruitful of enlightenment than an attempt to show that they are not really disparate.

Professor Miller gives us little of his own positive views. What he does give us suggests rather too much readiness to appeal to the uncriticized demand of our emotional nature the common feelings of humanity as a proof of difficult doctrines. He betrays an uneasy suspicion that Kant himself would not have approved of his efforts in this direction. It would not however be fair to bring this as a definite criticism against a work which is not aimed at setting forth the author's own point of view systematically. And as a study of Kant's own doctrine this must be pronounced a conscientious and scholarly piece of work.

G C FIELD

Problems of Providence By Rev CHARLES J SHEBBEARE M.A. (London Longmans Green & Co 1929 Pp vi + 120 Price 4s cloth 2s 6d paper)

Religion and the Thought of To-day By C C J WEBB M.A. F.B.A. (London Oxford University Press Humphrey Milford 1929 Pp 50 Price 2s 6d)

Do We Need a New Religion? By PAUL ARTHUR SCHILPP (New York Henry Holt & Co 1929 Pp xiv + 325 Price \$2 50)

Mr Shebbeare's little book deals with some very big problems in fact with all the chief issues of Theism. The argument is closely reasoned and closely packed also of necessity and it is not therefore a book for the arm chair. But any intelligent general reader who will grapple with it will reap a rich reward. Mr Shebbeare's purpose is to vindicate the rationality of the essential features of popular Theism. Running side by side with this purpose is an exposition of an immanentist Theism to which Mr Shebbeare inclines. At times this reminds one of the optimism of Leibniz though its affinities

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are actually Hegelian, and Mr Shebbeare is convinced that it allows us the *sine qua non* of Theism, namely a responsive God, a fact which those of us who have pragmatic sympathies may possibly suspect. But one may endorse his plea that the idea of the Good in the wide Platonic sense is comprehensive enough to act as a principle of unity. It was on similar lines that Lotze once said that what should be might prove ultimately the basis of what is. On the question of freedom, Mr Shebbeare is inclined to want the best of both worlds of determinism and libertarianism and tries to satisfy the libertarian 'without admitting any real contingency.' Such a satisfaction can please only the 'soft determinists' as James called them. However, no one is likely to agree with all that any author says on such thorny problems. Yet most readers will agree that Mr Shebbeare knows how to state his problems even when he does not solve them and has given us a most ably thought-out and stimulating little book.

Professor Webb's lectures, the first series of the Riddell Memorial Lectures are three in number, dealing with the problems and methods of the study of religion, the debt of modern philosophy to Christianity, and the problem of religion in contemporary thought. Professor Webb has the not too common gift of being able to write on philosophical topics in a language 'understood of the people' and that also of being able to express the fruits of ripe scholarship succinctly. He brings out with admirable clearness how modern philosophy is indebted to Christianity both in its conception of personality and with regard to the human spirit being an expression of the divine. Indeed, the fifty pages of this booklet are more suggestive and informing than many a much more pretentious volume.

Mr Schilpp is Professor of Philosophy at an American college. His book is untechnically written and forcefully expressed. Assuming the need of religion, he asks whether the present expressions of religion are likely to satisfy the future if they do less than satisfy the present. He deals in an interesting chapter with the new attitude of science, and we gather that America has more fundamentalists of science of the sort that talk about "Science" with a capital S, in general terms, than we are burdened with in England. We should find few in this country to tell us that science is all sufficient for man's spiritual as well as intellectual needs as one writer Mr Schilpp quotes declares. The conclusion is that the new religion is radical Christianity, and it is hardly possible to see what other candidate is in the field.

E. S. WATERHOUSE

Il Cardinale Nicolò di Cusa By PROFESSOR PAOLO ROTTÀ (Milan Società Editrice Vita e Pensiero 1928 Pp xvi + 448 Lire 20)

We have been expecting some such book from Professor Rottà. The *Rivista di Filosofia Neo-Scolastica* of 1926 and 1927 contained a series of articles from his pen on the fifteenth century German Cardinal, these he shortly followed up with an Italian translation of the Cardinal's chief work (*Della Dottrina Ignoranza*, Milan, Edizioni Athena), and of this work he prepared a critical edition—the only one we possess and the first republication since 1565—as long ago as 1913 (Bari, Laterza). Besides this Italian interest, Nicholas's own countrymen are beginning to realize the need both of a new estimate of his work and of making available the material for an estimate. As a symptom of the former we may adduce J. Rutter's *Docta Ignorantia die Theorie des Nichtwissens bei Nicolaus Cusanus* (Teubner, 1927), and the latter need is to be satisfied by a forthcoming edition of all the writings of Nicholas under the

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auspices of the Heidelberg Academy of Sciences. It may be added that his mystical essay, *The Vision of God*, was published in English translation in 1928 (by Dent), with an introduction by Miss Underhill.

The central thought of Nicholas of Cusa sends us back to the ineffable One of the Neoplatonists and to the negative theology of certain of the Alexandrine Fathers. The direction of knowledge itself as well as the aspiration of the heart forces us to the thought of an ultimate to which a religious attitude is obligatory, and yet this ultimate cannot be grasped in the way of knowledge. It is the postulate, or rather the grand synthesizing completion, of all thinking that thinks on unwearyingly to the end of its powers, but it cannot be thought, cannot be comprehended by the understanding, but only apprehended in intuition. So full, so perfect is it that thought, when asked to do what it can, requires every one of its categories merely to adumbrate it. The very heaviness of this demand, the very necessity of admitting that God must be *everything*, leaves thought helpless, for the application to the same being of *every* category wrung to its last meaning results in a heap of contradictions. Thinking leads by its own impulsion to a conclusion that violates its own first law. "The place where Thou art found unveiled is girt round with the coincidence of contradictories. . . Now and Then coincide within the circle of Paradise. . . If anyone should set forth any concept by which Thou couldst be conceived, I know that that concept is not a concept of Thee for every concept is ended in the wall of Paradise" (*De Visione Dei*). This famous doctrine of *coincidentia contradictorium*, commonly regarded as distinctive of Nicholas, was part of the Neoplatonic patrimony of Christian mysticism, was emphasized a century earlier by Eckhart, and was taken over from Nicholas by Bruno a little more than a century later, but only by Nicholas among Christian thinkers was it worked towards with anything like the patience and pitilessness of protracted logical labour that marked the mysticism of Plotinus. Hence he was right in speaking of the ignorance in which his philosophy on its reasoned side culminated as *instructed* ignorance, though philosophy opens with ignorance and ends with it, the intermediate travail is eminently valuable because it shows where and why discursive knowledge has inexorable limits.

So far the Cardinal seems to be wholly mediæval. But he met and imbibed some of the spirit of the pioneers of the Renaissance. He regarded mathematics as the perfect type of intellectual system and proof, conceived experimental studies of physical phenomena, and broke with the old astronomy to the extent of making space and time infinite (or at least indefinite) and of declaring that the earth is a sphere that rotates on its own axis. On this latter point neither his doctrine nor his evidence is quite the same as the theory of Copernicus, but that he propounded it a hundred years before Copernicus is a sign of precocious deliverance from the cramping world of the Schoolmen, for whom—following Aristotle—the physical universe was bounded by the "sphere of fixed stars." His strenuous attempts to reconcile the Hussites remove him in another respect from mediævalism. To adduce also his lack of sympathy with Aristotle in general would be a mistake, for the Neoplatonic tradition he stands in is as genuinely mediæval as is Christian Aristotelianism. Hence the question one is expected to settle when one treats of him—whether he is to be assigned to the Middle Ages or to the Renaissance—is a niggling question, living at a transitional period it was possible for him to be a transitional figure, and this in fact he was.

Professor Rotta's full length study is the result of many years of devoted toil. Some of his contentions are coloured by the special pleading that great devotion almost inevitably brings, and another result of his devotion to the man is the allotment of half the book to a richly informed biographical

account I confess that I find this half the more interesting. In the other half the author has steeped himself so thoroughly in the Cardinal's ideas that he often fails to help those of us who find the content and especially the mode of expression of the *Docta Ignorantia* alien and obscure. And one awkward issue is left unsolved: an issue that a Catholic professor claiming the Cusan philosophy as a splendid synthesis of mediæval thought should surely have solved—namely, how far the specifically Christian dogmas which Nicholas as a Cardinal officially represented can be intelligibly retained within a system that denies the validity of any of our categories (or affirms the validity of all of them, which here amounts to the same thing) in their application to God. Nicholas himself admits that certain of our attributions to God are a practical necessity.

Since the worship of God—who is to be adored in spirit and in truth—is bound to rest on positive statements about God, any religion is bound in matters of worship to raise itself by an affirmative theology, adoring God as one and three, as most wise and most holy, as light inaccessible and life and truth and so on (*Docta Ignorantia* Bk. I, ch. xxvi *ad finem*), but if the opposite epithets may also (though not equally, as is pointed out in the same chapter) be applied to Him, or if in strictness none of them is applicable, it is hard to see how worship, in spirit and in truth, can be sustained.

What Professor Rotta does discuss at length is too involved to be summarized in a review. We can only record his book as a needed contribution from a competent specialist to the understanding of a man who was transparently great as an ecclesiastic and obscurely great as a philosopher.

T. E. JESSOP

The Theory of Christ's Ethics By F. A. M. SPENCER D.D. (London: George Allen & Unwin Ltd. 1939. Pp. 257. Price 10s. 6d. net.)

On reading this volume proves better than the title, and the chapter headings would lead one to expect. From the title one would expect that the writer was going to attempt to get beyond the moral teaching of Jesus to some fundamental metaphysical or theological principle. And at first one is disappointed to find from the headings of the chapters that he is offering only an exposition of that teaching. What he means by the theory is the explanations which from the standpoint of modern knowledge he adds to the exposition. Again the chapter headings at first sight appears not to hold out any hope of system, but as one reads the chapters one does begin to discover a reason for the order of the treatment adopted. It cannot be said, however, that he makes the best of his often quite good material in the arrangement of it. The Preface confesses the defect of the treatment. The first chapter gives a too brief sketch of the Historical Development and lays stress on the altruism and idealism of the teaching of Jesus in correspondence with that of the Old Testament. The second chapter discusses the much debated question of the relation of the Ethics of Jesus to the Eschatology, whether His teaching can be regarded only as an *interim ethic*. The author puts forward the view that Jesus was led by His disappointment with the results of His ministry to curtail the ethical teaching, and to postpone its completion to the Second Advent. The third chapter, recognizing the apparent absence of social reference in the teaching of Jesus, seeks to show that it had a social aspect and reproduced the national and the international idealism of the prophets, and that in comparison with Jesus' teaching there was a lapse of social idealism in early Christianity, as the elect society (Church) replaced the elect nation (the Kingdom). The fourth chapter shows that Christ's fulfilment of the

law was an expansion, and that His strict observance of the ceremonial regulations and usages was but a temporary policy. The fifth chapter presents the contrast of Jesus' method to that of the law. He gave, not rules, but principles, and often in parabolic form. Chapter VI continues this contrast in showing that He did not rely on force but on persuasion. But the author very definitely rejects the pacifist interpretation of the injunction of non resistance. He makes a good deal of Jesus' command to buy a sword. "If I were taking my child on a journey through a lawless country, would it not be right for me to protect his or her person from brutal outrage just by letting people see that I have a revolver? Or, if I am travelling alone, ought I not similarly to safeguard my own person for the sake of my children at home?" The moral interests of those who might be tempted to murder or outrage me or my child would appear to demand this measure of self-protection" (p. 84). In Chapter VII three moral principles are discussed, kindness, work, self consecration, self sacrifice being regarded as an occasional outcome of self-consecration. "If we wish for a single concept to express all the morality enjoined by Our Lord, we may take that of 'the production of good,' which includes the good consisting in the relief of our neighbours, wants the wider good of contributions to the welfare of society, the supreme good of the realization of the Divine Ideal of the Universe" (p. 98). The next (the eighth) chapter, under the heading the Value of Conduct, seeks to answer the question how far the moral conduct of man can contribute to the realization of the ideal, the coming of the Kingdom. It is not easy to discover any continuity between this and the next chapter (the ninth), which discusses the contrast between egoism and altruism. This chapter contains a very striking indictment of 'the almost universal callousness of the civilized world' to the post war miseries and draws this general conclusion. 'The fact is not that the vast majority of people are very good, nor that they are very bad, but that they are very limited. Many are very good within narrow limits, moderately good within wider limits, and callous and heartless beyond' (p. 118). A prominent feature of recent psychology is brought under consideration in the tenth chapter on 'Moralizing the Instincts'. From the teaching of Jesus the writer discusses the following practical consequences: "(1) temptations to be resisted, (2) instincts to be sublimated, (3) complexes to be resolved, (4) equilibrium to be attained through variation of activity". On this task of self-conquest there follows the task of self-fulfilment in the formation of character as composed of virtues (Chapter XI). The virtues mentioned are faith, hope, love, trust or passive faith, fidelity, humility, sincerity, courage—by no means an exhaustive analysis. Over against the virtues stand the sins (Chapter XII). The author sensibly states that while sin must be recognized as very terrible, the brooding on it is dangerous, and shows how the negative sins (omission) lead on to the positive (commission). The catalogue of sin given follows the teaching of the New Testament closely. Very truly he qualifies the modern tendency to identify sins with complexes. "It is plain that sinfulness and psychic discord do not vary concomitantly. For sufferers from shock are not necessarily morally bad while some of the worst criminals may have a calm and self possessed demeanour. In fact, inward conflict may be a sign of moral impulses at work, and equanimity in crime proves that virtue is dormant or suppressed" (p. 162). The transition to the next topic is indicated in the title of Chapter XIII, "The Pharisaic Complex," which begins with offering reasons for questioning the authenticity of the denunciations of the Pharisees as given in the Gospels. "(1) unlike Jesus, (2) not all Pharisees so bad, (3) Jesus

on good terms with many of them, (4) Matthew xxiii shows signs of redaction "The Pharisaic complex is carefully analysed "The root sin of Pharisaism is a species of egoism, which may be variously described as selfishness or pride—a selfish contentment with one's own virtue in contrast to the vices of others a proud exaltation of self coupled with contempt for those who have not been similarly favoured (p 172) This complex was resolved for Paul in his faith in Christ Why the discussion of Rewards and Punishments (Chapter XIV) follows the Pharisaic complex is obvious This chapter shows that the prominence of sanctions in the Gospel is not inconsistent with the demand for disinterested goodness, the highest good offered is in accord with the goodness required Divine punishment as the thwarting of morbid desires through change of environment is remedial One of the best chapters in the book (the fifteenth) deals with Forgiveness A distinction is made between pardon and forgiveness When a king pardons a criminal he remits the penalty to which the latter has rendered himself liable When a father forgives his child he receives him back into loving intimacy (p 187) forgiveness involves release from sin, excites gratitude, and leads to service It may be unreasonable to expect an adequate doctrine of the atonement in one paragraph and what is said is suggestive Chapter XVI juxtaposes conscience and grace but does not show their relation, and the conception of grace as God's help in man's conduct is inadequate, this help comes through the Holy Spirit The next chapter (the seventeenth) on the Moral and the Spiritual makes, in my judgment, too sharp a distinction between the phases of man's personal development The last chapter on the Christian *summum bonum* attempts the synthesis of utilitarianism since happiness was valued by Jesus, and ethical idealism "The main outlines of Our Lord's promise of good are fairly clear it is reconstituted and enhanced and increasing life, life that transcends and abolishes death Life of many souls in intimate harmony and love, life that is for ever nourished by the life of God a living universe supported and ordered and glorified by the power and love of God (p 245), or, as St Paul puts it, God all in all This vision raises for our thought the problem of the relation of the temporal to the eternal This summary, in which I have made use largely of the very good Table of Contents indicates the interest and the value of the contents of the volume

ALFRED E GARVE

Jewish Influence in Modern Thought By A A ROBACK (Cambridge, Massachusetts Sci-Art Publishers 1929 Pp 506 Price \$4 50)

It is a coincidence that Dr Roback's book has been followed by a rather similar work, called *Jews in the Christian Era*, by Laure Magnus, published in November by Benn Fortunately, the two works don't clash Mr Magnus has made a broad survey of the cultural history of the Christian era, emphasizing the Jewish contributions to thought, and presenting them in their context Dr Roback has set before himself two objects (a) to describe, in an accurate, unbiassed way the exact Jewish element in modern cultural movements, and (b) to analyse that element, to appraise its significance, and so to learn something of the mentality from which it has emanated The present literature on the whole subject is so loose, and so marred either by a chauvinistic or an anti Semitic standpoint, that the appearance of both these books is a matter of distinct importance for students

In his first aim Dr Roback has been markedly successful He argues convincingly for the postulate of a "Jewish" racial heritage throughout modern

times, irrespective of the alien cultures in which that heritage has appeared. He draws attention to the list of eminent Jewish names in modern cultural movements, e.g. Bergson, Freud, Einstein, Husserl, etc. He adduces a longer list of minor notables in various spheres, and devotes a special section to Psycho analysis, in which he detects a specially Jewish note. Throughout this descriptive part of the book Dr. Roback is on sure ground, and his treatment of the facts is in pleasant contrast to all the other existing surveys one can recall.

In his second aim, that of analysing the specific quality of the Jewish element in modern thought, Dr. Roback is a little disappointing. His discussion of the theme is very slight indeed. It is only dealt with at all in three or four passages, and then only cursorily. In Chapter VI, for example, entitled "The Intellectual Sovereigns of Europe," by whom are meant Bergson, Freud, and Einstein, the question is certainly raised, on page 128: "Is there a general point of view which holds them together, and which, moreover, distinguishes their mode of thinking as Jewish?" The answer follows: "All three are at one in combating absolutism" (p. 130). "Bergson," the writer proceeds, "has undermined the power of reason, subordinating it to intuition, Freud has reduced the influence of the conscious to the advantage of the unconscious (subconscious), while Einstein has demolished the absolute rule of matter, space and time" (*ibid.*).

This answer is so intrinsically vague, and so forced a generalization derived apparently from the term "relativity" associated with Einstein's work, that one cannot regard it as an adequate analysis of the facts. The case of Husserl, for instance, another Jewish thinker, scarcely comes under such a generalization. On page 138 of the January issue of this *Journal* (1929), there is a review of a book dealing mainly with the philosophy of Husserl, and this quotation occurs: "Husserl inclines to rationalism as opposed to faith, authority, etc., to absolutism as opposed to scepticism, to intellectualism rather than mysticism." This seems to contradict Dr. Roback's hypothesis at once. The hypothesis is not amplified, unfortunately, in later chapters, though on page 249 it is repeated, and Dr. Roback writes: "Einstein, being a Jew, might have found it easier to cut himself loose from the absolutistic moorings of physical concepts than his Gentile colleagues."

Another passage dealing generally with the question follows this quotation: "The Jewish mind," we read, "it would seem, from a survey of Jewish thought, is less susceptible to dogma, to rigid conventional discipline than, let us say, was the Greek mind. The latter always aimed at definition, and what is definition but setting a limit to a concept, laying down laws? In Jewish philosophy, from Philo to Spinoza, we find the dictum, *Omnis determinatio est negatio*—"every determination is a negation," playing a prominent part" (p. 249). It is difficult to take such a passage seriously. One cannot do justice either to Greek thought or to Spinoza's metaphysical doctrines by generalizations like these.

In the chapter dealing with Psycho analysis there is another brief allusion to the question. "I am disposed," Dr. Roback writes, "to look for the actual causes of the Jewish birth and nursing of psycho analysis in the peculiar make up of the Jew, who is analytical in a psychological sense, and who is constantly reflecting on the Why and Wherefore of everything, as exemplified by the style of Ecclesiastes" (pp. 196-7). What could be more vague than this? Yet, apart from the passages mentioned, and from a general contrast drawn between the Greek genius as static and the Jewish genius as dynamic (p. 51), there is no real attempt to answer the original question of the exact significance of the Jewish element in modern culture.

Dr Roback's book, then, is not so successful in its second object as it is in its first. There is a real need for some adequate analysis of the exact significance of the Jewish element in present-day movements. Possibly a future work, mentioned in the Foreword, will deal with the question more thoroughly. The chief value of the present work is in its excellent descriptive matter. A bibliography adds to the usefulness of the book for students, and there are some very attractive half tone portraits.

I LEVINE.

The Sceptical Biologist (Ten Essays) By JOSEPH NEEDHAM (London Chatto & Windus 1929 Pp 228 Price 7s 6d)

Not all of Mr Needham's ten Essays are sceptical: one tells about William Harvey's investigation of The Lancashire Witches, another about the biological speculations of S. T. Coleridge, and yet another about Julien de la Mettrie, who was one of the "curious friends" of Frederick the Great, and who wrote a book about the human machine. The other themes are Neo Mechanism & Neo Vitalism (there an old controversy is brought up to date), Bio-chemical Psychology, "Organicism" (which is ascribed to A. N. Whitehead and Lloyd Morgan, but really comes from Fechner and Hans Driesch), Teleology, Science and Purpose, Religion and Materialism, and the Uprisings of the Phoenix, Vitalism. It is all of extraordinary freshness and interest, and the writer of this notice (at least) has spent several most enjoyable evenings with the book.

It is positive as well as sceptical. Neo-Vitalism (which is really "anthropomorphic animism"), and Neo Mechanism, as well as Life itself, are defined. Life is the phenomenal disturbance caused by the intrusion of mind into material and energetic things. Neo Mechanism is the backbone of scientific thought, without validity as a philosophy, universal in its applicability, but restricted in its essence. Thus Mr Needham keeps his religion and his science strictly apart, and regards Nature from two standpoints. Few scientists and fewer philosophers will follow him in this attitude. After all, and in the last resort, says Driesch, there is only one kind of knowledge.

There is much in the Essays about Teleology (universal and restricted), purposiveness in organic nature, reciprocity between the organism and its environment, science and purpose, and so on. In Mr Needham's book, and elsewhere (as in Driesch, for instance), these notions have troubled and confused generations of biologists. May we expect, with some relief, that the progress of modern physics is enabling us to dispense entirely, in biology, with the conception of Teleology?

In this way Nature "passes," and the passage is unidirectional. In every physical change that happens some part of the universe is inevitably changed. Energy, that is, available energy—which we may regard as physical causality—is expended. Energy is not annihilated, but it is dissipated.

Let there be some isolated physical system which changes so that it passes from state A to state B. In one of these states the mathematical function called entropy will have increased in value—thus state we call the "later" one. In all physical events whatever, whether controlled by organisms, or happening of themselves, this increase of entropy occurs.

And the entropy function measures the probability of the arrangement of things and energies in a system. When entropy increases the arrangement has become a more probable one. If a physical system can change, of itself (if for instance heat can flow out from the system), the latter was arranged,

or organized. When the change has occurred—when the heat has flowed and been dissipated—the system has become, to that extent, disarranged or disorganized. Nature in its passage tends from a cosmos towards a chaos. *It exhibits tendency—towards "mixed up ness," or disorganization.*

It is as clear as any result can well be that there is another tendency in nature—that exhibited by all organisms. If I make a flat cardboard tray with a lid, and if I put between the lid and the bottom of the tray a number of lettered discs fitting loosely, the letters will soon present "disorder." The more the tray is handled casually, the more complete becomes the disorder—the more probable become the distributions of the letters. Think about this arrangement *a b c d e x y z*. It is a very improbable one, which we may expect to occur once in 26 times—if the permutations of the letters occur of themselves, that is, at random. But it would be the easiest thing in the world for me to arrange the letters in the order *a b c x y z*—by *sorting them*.

Clerk Maxwell's "sorting demon" was an organism "with faculties finite as our own" but microscopic in size (so that it could sort molecules). But all organisms are sorting demons. The boy that regulated the stopcocks of the original Newcomen steam-engine was a demon, so is the modern slide valve *arrangement* (but here sorting "has gone over into its product"). So are all organisms.

Organic activity retards the increase of entropy, but *only locally*. If it retards entropy here, by coupling together energy transformations it increases the growth of entropy somewhere else. It cannot, on the whole, decrease entropy, for all events "leave an indelible imprint" on the universe considered as a whole. If we put free energy into a physical transformer (say, put current into an accumulator), we do not get so much energy as an output—some is dissipated. The ratio $\frac{\text{output}}{\text{input}}$ is called the efficiency of the trans-

former, and it can never be greater than unity. (If a physical system contains a Maxwell demon, says Mr. Needham, it has an efficiency greater than unity! But in that case we should create energy, contradicting the first law of energetics—and that "isn't done" in science!)

So organisms retard the universal increase of entropy by arranging things and energies: they set up local and improbable states in a universe where the natural (or inorganic) tendency is for each "later" state to be more probable than the contiguous "earlier" one. This is what (as Eddington shows so clearly) we mean by early and late, or before and after.

In only one way, it seems, do we approach a conception of universal teleology. Extrapolating "forward" in time we come to universal chaos—the completely random, or disorganized distribution of all things and energies. A universe of low frequency radiation with some infinitesimal quantity of clusers of matter. Time will no longer "pass," for there will be no entropy-change. Time will, at last, be extension $+ve$ or $-ve$. This is what we mean by "eternal." But extrapolating backward we come to the appalling problem of the "beginning" of the universe—the arrangement of a cosmos from out of a chaos. That the arrangement might have come about *of itself* is, as Boltzmann showed long ago, perfectly conceivable, but the human mind simply and irrationally refuses to contemplate the incredible improbability of the event. What then? And if there was an arbitrary arrangement carried out from "outside" the Universe—a Creation—"What for?" We think about this with humility that is abject.

JAS. JOHNSTONE.

New Views of Evolution By G P CONGER, Pb D (New York The Macmillan Company 1929 Pp 14 + 235 Price 10s 6d)

In the flood of semi-popular literature on evolution which still continues to pour from the press it is a rare occurrence to find one which is disinterested and critical, rather than blindly enthusiastic and dogmatic one which reviews the whole range of application (or misapplication) of the notion of evolution and makes some attempt to analyse and clarify the basic concepts involved in it. But this short survey by Professor G P Conger in the Macmillan Company's *Philosophy for the Layman Series* seems to merit this description. The only general criticism which might be urged against it is that the author has not been sufficiently whole-hearted in his critical standpoint. He states that there are four fundamental notions which are essential for all theories of evolution (1) Change in time (2) serial order (3) inherent causes and (4) the general principle of creative synthesis. On page 17 Professor Conger mentions that 'the notions of force and cause' may have to be modified," and that 'the modifications may result in a weakening of both theories' (i.e. creationism and evolutionism) but he postpones further discussion of these notions to a short section at the end of the book and the vagueness associated with them is permitted to infect much of the intervening discussion. Is there any sense in asking, 'What makes the process proceed?' or 'What makes it all go?' This postponement permits the introduction of discussions for which there is a popular demand but it precludes the consideration of some of the most interesting puzzles which present themselves when developmental processes are approached from the standpoint of our ordinary notions about causation.

Attention may also be called to the statement on page 42 that "If the physical world can thus be reduced to mathematics, why not suppose that the physical world arises out of a system or set of conditions, which must be treated primarily not as physical but as mathematical?" On the following page it is added that "it begins to be a plausible view that the world we call material 'evolved' out of some structures which we may call mathematical or logical." It is a misfortune that the author has not explained what he means by the adjectives 'mathematical' and 'logical' in this passage (which is connected with the names of Professor Eddington and G N Lewis), and it is difficult to understand what is meant by the physical world being 'reduced to mathematics' in any ontological sense. This passage seems to be a lapse into sensationalism (in the journalistic sense), and is hardly in harmony with the author's own critical remarks on 'reductional theories' on page 208.

The statement on page 62, that 'cells are composed of protoplasm, which is a general term for simple living matter,' although it echoes what is said in every elementary textbook, is really senseless, because there is no such thing as 'simple living matter' of which cells can be said to be "composed." Cells are analysable into a complex of highly organized parts standing in definite organizing relations to one another, and being perpetuated by division and growth. There is no *Urstoff*, no "simple living matter," out of which cells are "made"—they never are "made." It is surely a misuse of language to speak of "matter" as 'living' when this adjective really refers to the organized system, not to stuff. No such entity as "simple living matter" is found in nature, but only "whole living organisms."

A serious defect of the chapters dealing with mental and social evolution and of Chapter IX on 'Some Philosophies of Evolution' is the omission of any reference to the work of the late Professor L T Hobhouse, although prominence is given to some later writers who will have been directly or

indirectly indebted to him. One would have supposed that his detailed and careful work would at least be worthy of mention in a chapter which includes references to the writings of H. G. Wells and Oswald Spengler.

But in spite of these defects, since it is certainly superior to the average book of this kind, the work may be recommended to those interested in "philosophy for the layman" and to biologists who are interested in the more extended use of the notion of evolution.

J. H. WOODGER

The Growth of the Mind: An Introduction to Child Psychology By K. KOFFKA
Translated by R. M. OGDEN. Second Edition (London: Kegan Paul,
Trench, Trübner & Co. 1928. Pp. xix + 427. Price 10s. 6d.)

This is a second edition of the well-known exposition by Professor Koffka of the *Gestalt* psychology in its application to the psychology of child development. There are several changes and additions as compared with the first edition, notably in the theoretical discussion of instinct in the third chapter, and in the treatment of the different phases of the child's learning in the fifth. A paragraph has also been added here and there in other parts of the book.

The polemical tone of the first edition is somewhat tempered, but unless the author had entirely deleted the vigorous and trenchant criticisms of Thorndike and the behaviourists, a general impression of the work as still polemical could not fail to be given. It will be generally agreed that the reply of the *Gestalt* psychologists to the extreme stimulus-response behaviourism is, up to a point, decisive. But few, if any, real psychologists now adhere to the extreme stimulus-response point of view. And however conclusive the arguments of the *Gestalt* psychologists may be, the substitution of their psychology for a behaviouristic psychology seems very like substituting a merely descriptive for an explanatory psychology—a result with which no psychologist can rest content. The chief interest of the new section that has been added to Chapter III lies in the fact that Koffka now seems to appreciate the weakness of the older rigid, semi-mechanical *Gestalt* theory, and to tend in the direction of a dynamic psychology which is really a wider behaviourism. This is a distinct advance from the barrenness of that peculiar "mentalism" into which *Gestalt* psychology has hitherto shown a tendency to fall.

In the fifth chapter the changes mainly take the form of additions of paragraphs dealing with recent work on child psychology. Such work is interpreted—generally in an illuminating way—from the point of view of Koffka's configurational theory. On the whole, the chapter has gained considerably in cogency and also in clearness from these additions. That must also be our verdict on the work as a whole. It might indeed be said, not only that the second edition of this very notable book is a distinct improvement on the first edition, but even that the latter is in some respects no longer an adequate presentation of the author's views.

JAMES DREVER

The Fundamentals of Human Motivation By LEONARD T. TROLAND, S.B.,
A.M., Ph.D. (New York: D. Van Nostrand Company; London:
Macmillan & Co. 1929. Pp. xiv + 321. Price 21s.)

This is in many respects a very interesting book. The author has made a serious, and not entirely unsuccessful, attempt to give a systematic account of the "foundations of impulse, desire, emotion, purpose, and habit." By "foundations" he means the physiological foundations, and had the matter

been left there we should have little to criticize. In that case we should expect, and we should find, such an account of these psychological phenomena as the consistent behaviourist gives, which is excellent as far as it goes. But Dr. Troland is not a behaviourist, or at least tries to convince himself and the reader that he is not. He wishes to preserve "a balanced discussion of both the bodily and the mental factors in life" and to study "the relationships which exist between these factors." In other words, he tries to sit on two stools at the same time. This was bound to lead to trouble, and the trouble comes to a head in Chapter XV.

This chapter is entitled "Fundamental Psychological Phenomena and their Correlations." The first section is devoted to a very inconclusive criticism of the behaviourist position, the chief point of which seems to be that such a position is "humanly unsatisfactory, because it leaves out of account the very phenomena which really interest us the most." This leads on to a discussion of the psychophysical problem, the most important part of which is the attempt to define the nature of consciousness. "Consciousness," says the author, "is the totality of any actual individual experience at any moment." It is therefore "a system of concrete facts which is presented to each individual centre of human observation." Further, "it is a system of space relationships and factors in space, rather than primarily of so-called cognitive, affective, or conative linkages." This is "mathematically correlated" with cortical processes. The present writer, after the most strenuous efforts, has entirely failed to attach any definite meaning to these sentences and phrases. The analysis of consciousness which they introduce does not present the same difficulty, but seems nevertheless largely futile. For the psychologist consciousness is obviously a character that belongs to certain adaptive processes in the life of the organism. If we regard it in this way we can do justice to the investigations of both behaviourist and introspectionist, and the psychophysical problem does not emerge. If we regard it in any other way we must be either behaviourists or introspectionists. We cannot be both.

It may seem somewhat invidious to concentrate criticism on this section of a work extending to twenty-nine chapters. Unfortunately the section in question is the keystone of the whole system of psychology represented in the book, and cannot but determine our attitude towards that system. The critical attitude is strengthened by the occurrence of such apparently meaningless collocations of words as 'functional nervous constitution,' and the frequent repetition of spellings like "entegrative" for "integrative." There are, however, many good things in the book, and if it had not been for his attempt to combine two inconsistent points of view on an impossible basis, the author would have achieved something really worth while. The physiological discussion in the earlier chapters is very good, and the conception of "retroflex" action which is expounded in Chapters XII and XIII would appear to be quite useful. The paragraph in which the author defines retroflex action may be quoted as a more or less characteristic specimen of the author's style, which has, as the reader will perceive, little to commend it.

"We may now generalize this proposition in the following way. *Nociception is accompanied by a decreasing of the conductance of operating cortical adjustors whereas beneception is accompanied by an increasing of the conductance of operating cortical adjustors.* We may assign to the process which is thus described the general name *retroflex action*. This term is selected because the action in question is a kind of 'back-kick' of organic effects into the cortex. The cortex, by its principle of trial and error or random activity, initiates a certain

line of response. This in turn produces certain actual or incipient organic changes which are reported back to the cortex via the beneceptive or nociceptive channels, and the excitations of these channels modify the cortical tendency. If the 'report' is beneceptive or favourable, the tendency in question is enhanced, whereas if it is nociceptive or unfavourable, the tendency is reduced. These actions can be regarded as being determined quite mechanistically, without reference to any accompanying pleasantness or unpleasantness, or any 'intelligence' on the part of the cortical process. Facilitative retroflex action, based upon beneception, may be characterized as *positive* because it increases the given cortical conductance, while the nociceptive consequences may be characterized as *negative*" (Italics are the author's)

Great use is made of this conception of retroflex action in the subsequent discussion of learning and of the more complex processes and phenomena of the mental life of the human being

JAMES DREVER

The Psychology of the Infant By SIEGFRIED BERNFELD Translated by ROSETTA HURWITZ (London Kegan Paul, Trench, Trübner & Co., Ltd 1929 Pp xi + 309 Price 15s)

The author of this book sets out to give a comprehensive survey of the psychology of the infant from birth to the age of twelve months. Admittedly he has compiled most of his material from the diaries and descriptive work of others, and there is very little original matter. As is the case with many other translations of modern psychological work from the German, this book does not read easily in English, but in spite of this the author has certainly not succeeded in giving a clearly cut picture of the psychological development of the child. The reason for this is that he accepts the Freudian doctrines completely and applies them rigidly to his subject. It is remarkable to notice how these doctrines, which are purely psychological, with little or no relation to biology and physiology, get into difficulties when applied to the young infant whose phylogenetic relationships are so important. Following Freud, certain reactions are attributed to the death 'instincts,' that is, the tendency for the organism to return to a condition of complete rest, while others are attributed to the 'instinct' to seek pleasure, which is held to be a manifestation of sexuality. All activities, except certain purely discharge phenomena, are held to belong to one or other of these "instincts." Physiologically pleasure is held to be an affective condition accompanying relief of tension and admittedly such relief of relatively simple tensions plays a great part in the vital processes of the infant, but it is only courting complication to differentiate impulses seeking rest, i.e. presumably relief of tension and impulses seeking pleasure, which physiologically is the same thing. Working on such hypotheses, the author suggests that hearing is probably a phenomenon of sexuality, and speech certainly is. He has to admit that the developing cortical functions of discrimination and integration are of great importance, but the idea that adult sexuality should develop from a more generalized sensory pattern is of course never entertained. On the other hand, we are asked to believe that some areas are at one moment erogenous zones, but that they lose their erogenous character for a time and regain it later, so that the theory may be upheld. It would be interesting to know how far the orthodox Freudian would endorse some of the conclusions arrived at. The author accepts the valuable contributions of the *Gestalt* school that, as

Koffka has shown the perceptions of infants are not composed of a summation of individual sensations but he makes no reference to the very important observations of Köhler as to the capacity of higher intelligences to break up and reintegrate *Gestalten*

The author permits himself the usual tirade against the puritanical outlook of the ordinary observer of children in respect to sex manifestations, but rather gives away his own lack of clinical experience by his attitude to infantile masturbation. He states that since it has been observed, it is probably or certainly universal, and proceeds for several pages to theorize on this basis. Any physician who has had experience in a children's hospital knows perfectly well that infantile masturbation occurs and far from regarding it with horror often desires to investigate it as a clinical phenomenon but suffers rather from a lack of material than a superabundance. The author is not altogether consistent in his allegiance, as he is inclined to follow Rank and Ferenczi in the importance attached to the trauma of birth and the working out of the ego and the differentiation of self and not-self. With such a subject of psychological interest as the time and manner in which the inverted retinal image becomes reinverted, this book deals not at all though this probably takes place in the first year of life.

The investigator of child psychology will find scattered through the book a great deal of interesting and important information but he will have to submit himself to a somewhat severe discipline to find it. The psychoanalyst is in the nature of things already convinced of the truth of Freudian findings, and it is doubtful whether there is anything in this book which will really add to the enormous fund of recorded "Freudian material," which has now reached such a massive proportion that it requires a bibliography of some four hundred pages to enumerate it. The impartial inquirer, if such exist—which, of course, the Freudians deny—will be more likely to be prejudiced against acceptance of the theories than convinced by this presentation. The author promises a further series of volumes dealing with the later phases of child psychology along similar lines.

R G GORDON

The Elements of Logic By ROBERT LATTI, M A, D Phil, LL D, and ALEXANDER MACBEATH, M A (London Macmillan & Co, Ltd 1929 Pp viii + 393 Price 6s)

In the *Preface* to this book Professor Macbeath says that its aim "is to meet the requirements of students who take logic as one of their subjects for an Ordinary or Pass Degree at the Universities, and at the same time to provide an introduction to logic for those who intend to pursue the study of the subject to a more advanced stage." If it is to fulfil the first purpose it must be presumed that University examinations have not yet been affected by the development of logic that has taken place during the last forty years. This may, unfortunately, be the case. If so, this book may be recommended to students preparing for such examinations. It is written from the traditional point of view represented by Bradley, Bosanquet, and Mr Joseph. The student who reads this book will be provided with an adequate introduction to Mr Joseph's *Introduction to Logic*, which remains by far the best book produced by any logician of this school.

Rather more than half of this book had been written by Professor Latti before he was compelled to relinquish the task. Professor Macbeath undertook its completion, and has certainly succeeded in making the book a connected

whole. He appears to be wholly responsible for the treatment of induction, which is more satisfactory than that of deduction. It is to be regretted that in discussing "The Presupposition of Induction" Professor Macbeath takes no notice of recent work such as that of J. M. Keynes and Dr. Broad on induction and probability, but is content to reassert that the Uniformity of Nature or the Law of Universal Causation is a sufficient basis for inductive inference. The treatment of Mill's Methods is decidedly better than is usual in elementary textbooks on logic, in spite of the mistaken assertion that the Joint Method "supplements" the Method of Agreement by the Method of Difference. Professor Macbeath's discussion of *Analogy* limits it to what is sometimes called "argument from analogy"; he does not appear to recognize that analogy is an element in all inductive investigation. This may be due to the fact that Professor Macbeath does not attempt to view scientific method as a continuous development. This would also account for the odd treatment of *Hypothesis* after the discussion of the inductive methods.

The limitations of the traditional point of view are most apparent in the discussion of deduction. Here the authors have been content to follow in the wake of numerous traditional textbooks. They assert that every proposition is of the form, *All S is P*, or *Some S is P*, or *This S is P*, or of their contradictories. The proposition is interpreted as the assertion of an identity in difference, but the meaning of this assertion is nowhere clearly explained. It is not a little depressing to find such an inadequate analysis of deductive inference offered as adequate to University requirements.

L. S. STEBBING.

The Mission of Greece. Some Greek Views of Life in the Roman World. Edited by R. W. LIVINGSTONE, Vice Chancellor of the Queen's University, Belfast (Oxford: Clarendon Press; Humphrey Milford, 1928. Pp. xii + 302. Price 7s. 6d. net.)

Mr. Livingstone here follows up his *Pageant of Greece* with a volume of annotated extracts representative of the Hellenism of the Roman Empire. He has made a very interesting and attractive book, which, if it can find its way to the right places, should give pleasure and profit to a very large number of people. What he has tried to present by means of his carefully chosen and judiciously annotated extracts is specimens of the reflective attitude—of the philosophy, in the wide sense of the word—of the Greek or Greek-educated person of the time. He begins with the Epicurean and Stoic creeds. He is very fair to Epicurus, and it is not his fault that the Stoics are better represented in the selections. Epictetus and Marcus Aurelius deserve all the space he gives them. The other major figures are the three, Dion Chrysostom, Plutarch, and Lucian—all interesting in their different ways. We doubt if there are many, even among competent Greek scholars, who will find themselves on familiar ground for more than a small portion of the book. Where they are, they will probably criticize Mr. Livingstone's choice, but taking the book as a whole, they will inevitably recognize that it succeeds in producing the impression of a vigorous and many-sided civilization, less unlike our own in many ways than one might have been inclined to suppose.

J. L. STOCKS.

NEW BOOKS

Received also —

- HAROLD JEFFREYS M A D Sc, FRS *The Future of the Earth* (Psyche Miniatures) London Kegan Paul Trench, Trübner & Co 1929 Pp 72 2s 6d
- VARIOUS *Philosophie der Gegenwart in Selbstdarstellungen* Leipzig Felix Meiner Verlag 1929 Gebunden RM 12 Broschiert RM 8 50
- ELYSTAN THOMAS *What Existence Means* London Watts & Co 1929 (Cheap edition) Pp xiii + 195 1s
- F E ENGLAND M A PH D Foreword by Professor G Dawes Hicks *Kant's Conception of God* London George Allen & Unwin Ltd 1929 Pp 256 10s 6d
- ANDREW P UCHENKO *The Logic of Events An Introduction to a Philosophy of Time* Berkeley University of California Press 1929 Pp x + 180
- HILDA D OAKELEY M A *A Study in the Philosophy of Personality* London Williams & Norgate Ltd 1929 Pp 192 5s
- ARTHUR STANLEY EDDINGTON FRS *Science and the Unseen World* (Swarthmore Lecture 1929) London George Allen & Unwin Ltd 1929 Pp 56 Price 2s 6d and 1s 6d
- GEORGE BINNEY DIBBLEE M A *Instinct and Intuition A Study in Mental Duality* London Faber & Faber Ltd 1929 Pp 394 25s
- HENRI PIÉRON *Principles of Experimental Psychology* (International Library of Psychology and Philosophy) London Kegan Paul Trench Trübner & Co 1929 Pp viii + 190 10s 6d
- CYRIL NORWON M A D Litt *The English Tradition of Education* London John Murray 1929 Pp viii + 340 10s 6d
- ALFRED ADLER *Problems of Neurosis A Book of Case Histories* (Prefatory Essay by F G Crookshank MD F R C P Edited by Philippe Mauret) London Kegan Paul Trench Trübner & Co 1929 Pp xxxvii + 178 8s 6d
- A A ROBACK D Sc *Jewish Influence in Modern Thought* Cambridge Mass Sci Art Publishers 1929 Pp 506 4 dollars 50
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- A H MACKMURDO *Money and Credit of the Future, and Other Essays* London P S King & Son 1929 Pp 87 2s 6d
- BERTRAND RUSSELL *Marriage and Morals* London George Allen & Unwin Ltd 1929 Pp 254 7s 6d
- VARIOUS (Edited by T V Smith and W K Wright) *Essays in Philosophy* London The Open Court Co 1929 Pp xvi + 337 16s
- C LLOYD MORGAN D Sc, LL D FRS *Mind at the Crossways* London Williams & Norgate Ltd 1929 Pp xi + 275 10s 6d
- LAURIE MAGNUS *The Jews in the Christian Era* London Ernest Benn, Ltd 1929 Pp ix + 432 15s
- VARIOUS *Studies in the Nature of Truth* University of California Publications Vol 11 Berkeley University of California Press 1929 Pp 232
- MONTGOMERY BELGION *Our Present Philosophy of Life* London Faber & Faber Ltd 1929 Pp 309 12s 6d
- MARY EVELYN CLARKE PH D *A Study in the Logic of Value* London University of London Press 1929 Pp x + 330 7s 6d

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- CARL NEWTON REXROAD, PH D *General Psychology for College Students* New York The Macmillan Co 1929 Pp xv + 392 8s 6d
- H STAFFORD HATFIELD *The Conquest of Thought by Invention* (Psyche Miniatures) London Kegan Paul Trench Trübner & Co 1929 Pp 117 2s 6d
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- JULIUS SCHULTZ *Die Maschinentheorie des Lebens* Leipzig Felix Meiner Verlag 1929 Pp viii + 194 Preis brochiert 7 80 RM gebunden 9 50 RM
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- Immanuel Kant's Critique of Pure Reason* Translated by Norman Kemp Smith London Macmillan & Co 1929 Pp xiii + 681 25s
- A N WHITEHEAD, F R S, Sc D D Sc, LL D *Process and Reality an Essay in Cosmology* (Gifford Lectures, 1927-28) Cambridge University Press 1929 Pp xxiii + 509 18s

CORRESPONDENCE

TO THE EDITOR OF THE *Journal of Philosophical Studies*

DEAR SIR

May I draw your attention to an error of fact in your review of Hegel's *Science of Logic* translated by W. H. Johnston and L. G. Struthers with an introductory preface by the late Viscount Haldane of Cloan.

Your reviewer states in at least two places that this translation was edited by Viscount Haldane. To say that a person has edited a book implies that he read it through and made (or at least suggested) corrections and alterations in the matter and arrangement of the contents. The fact is that Haldane did none of these things. Beyond writing the preface he read but two or three chapters on which his only comment was that they were admirable.

It is perhaps also of interest to refer to your reviewer's statement that the preface must have been one of Haldane's latest utterances. As a matter of fact it was written some three years before his death. Whether he wrote for publication anything about philosophy later than this I do not know; it was certainly one of his last published utterances and probably on philosophy his very last.

This latter point is perhaps trivial but the former I think ought to be corrected.

Yours faithfully

R. AINSWORTH

c/o THE MIDLAND BANK LTD. CAMBRIDGE

November 2 1929

TO THE EDITOR OF THE *Journal of Philosophical Studies*

SIR

I regret to find that there were some errors in my references to Lord Haldane in the review of the two translations from Hegel's larger *Logic* that appeared in the July number of this *Journal*. He wrote a Preface for the complete translation but was not otherwise responsible for the editing of it, and I find that it was also a mistake to refer to the Preface as one of the latest of his writings. I am informed that it was written several years before the publication of the translation.

Yours faithfully

J. S. MACKENZIE

2 ADELAIDE ROAD N.W. 3

November 10 1929

TO THE EDITOR OF THE *Journal of Philosophical Studies*

FREEDOM AND DETERMINISM

SIR

As a result of reading Professor B. M. Laing's excellent article on Freedom and Determinism in the October number and after some further reasoning in my own mind I have arrived at a view of this subject that seems largely satisfactory and now I am unable to understand why there has always been so much controversy. All schools of thinkers hold or admit that within rather wide limits individuals make decisions and act in the light of their knowledge of various prospective values and detriments. This is all that the doctrine of partial freedom requires—the ability in some degree to decide and act. It is true that the decisions and actions are largely determined by heredity, custom, and other influences, but this is another

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problem Freedom is not concerned with the origin of the dispositions and desires but only with the ability to exercise and satisfy them, or at least to seek the most desirable ends under the circumstances

The chief practical bearing of the controversy has been upon the infliction of punishments It has been contended that if all actions are determined there should be no punishment of the offender But the fact is that fear of punishment operates as a determinant no less than does the knowledge of other prospective pains or losses The possible offender is thus assisted in choosing the right alternatives and in leaving unmolested the pursuit by others of their desired ends Education and exhortation also are determinants and are more desirable, being less difficult and less violent But where desires are strongly anti social these methods do not avail, and punishments are specified and enforced and are in large degree effective Both exhortation and coercion, thus are determinants in the most rigid sense

Determinism I would admit, is universal in its scope and operation, even in the cognitive processes where Professor Laing seems to think there may be an element of arbitrariness But the determining causes are not the complete and sole causes, as several writers in this *Journal* have correctly maintained Along with the principle of determinism exists the principle of freedom which also is universal though not strictly parallel with determinism, as is also the case with mind and body In some degree we are propelled by extraneous influences, but in some degree also we are free as parcels of a self active universe or cosmos Could not all schools agree upon this somewhat commonplace view?

Yours faithfully,

CYRUS H ESHLEMAN

LUDINGTON, MICHIGAN, U S A.,

October 25, 1929

INSTITUTE NOTES

Lent Term begins on January 14th and ends on March 26th

The following courses of lectures will be given during the Lent Term —

SOME ASPECTS OF THE MORAL LIFE A course of six weekly lectures by Professor W G DE BURGH (Professor of Philosophy, University of Reading) at 5.45 p.m., at The Royal Anthropological Institute 52 Upper Bedford Place, W.C.1, beginning January 16, 1930. Fee for the course, 12s 6d (Members half fee)

SCIENCE AND ART A course of four weekly lectures by Professor S. ALVANDER F.B.A. (Hon. Professor of Philosophy, University of Manchester), on Fridays at 5.45 p.m., at the Royal Anthropological Institute, 52 Upper Bedford Place, W.C.1, beginning January 31, 1930. Fee for the course, 10s (Members, half fee)

The full syllabus of the Session can be obtained on application to the Director of Studies 88 Kingsway, W.C.2

LOCAL CENTRES

Members will be interested to learn that the Local Centres of the Institute are showing praiseworthy activity and initiative. The respective Committees of Centres at Newcastle, Sheffield, Liverpool, Bangor, and Cardiff, have started interesting programmes of lectures and discussions.

WIRELESS 'TALKS' ON PHILOSOPHY

Two members of the Institute were able to organize study circles in connection with the broadcast "Talks" on Philosophy during the Michaelmas Term. The Rev. A. E. Elder, Vicar of Otford, Kent, succeeded in getting together a class to listen to Professor W. G. de Burgh's talks on "The Meaning of Ethics" as well as Dr. William Brown's talks on "Mind and Body." Mr. Frederic Stuttig of 2 Durant Gardens, S.W.9, formed a group to listen to and discuss Mr. Brown's psychological talks.

We understand that the following "Talks" are to be broadcast in the Spring Session —

On Tuesdays, 5 GB 8.30-9 p.m. "Problems of Every-day Life" (weekly January 21st to April 8th). The course will take the form of discussions between experts and a representative of the ordinary listener, and will deal with social and economic as well as philosophical problems. The course will run for twelve weeks.

On Tuesdays, Daventry 5XX 8.0-8.30 p.m. "An Introduction to Industrial Psychology," by Professor T. H. Pear. Six weekly talks beginning March 4th and continuing to April 8th.

On Fridays (2LO), 7.25-7.45 p.m. "Social Problems in the Post-War World," by C. Delisle Burns, M.A., D.Lit. Six weekly talks beginning January 24th and continuing to February 28th.

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TOWARDS A NEW PHILOSOPHY

DR PH KOHNSTAMM

(Professor of Education in the University of Amsterdam Formerly Professor of
Thermodynamics in the same University)

THERE is perhaps no part of Kant's *Critique of Pure Reason* which has called forth such severe criticism as his deduction of the System of Categories in the Transcendental Analytic. I am not aware of even one among his many followers who holds to this part of Kant's doctrine. And the reason for this disagreement is obvious. Kant's deduction of his System of Categories is based on Formal Logic, the theory of syllogism, first laid down by Aristotle. Mediæval scholars had changed some details and partly systematized the subject. Kant himself had added some finishing touches to produce his famous number of a dozen categories, but the gist of this logical theory was the same as that found in Aristotle's *Organon*.

In regard to the forms of thought there thus seems to be a connection between Aristotelian and Kantian methodology, but a somewhat deeper analysis shows that there is at bottom a wide difference. The aim of science with Aristotle is mainly classification. He tries to discover a static system of concepts in which each thing in the world will find its proper place. Kant's mode of thought is functional, based as it is on the Renaissance philosophy and the work of Kepler, Galileo, and Newton, and it is impossible to make this much more complicated view of the world fit in with Aristotle's simple view of classification. Now the theory of syllogism loses its fundamental significance as soon as we try to translate it from its original meaning into a general theory of thought. To fit in with the traditional syllogistic theory a simple statement such as "the porter carries my luggage to the station" might be translated into something like the following monstrous phrase "the porter is

the only individual, belonging to the class of men, carrying my luggage to the station' Of course, we shall get no mistakes if we translate our statement in this way, and apply to it the rules of formal logic Nevertheless it is quite clear that this is no less than a falsification of the real meaning of our statement And the reason is again evident What we want to express by our statement is an *action*, not a *classification*, and the theory of syllogism has no place for the former

But how was it possible that a genius like Kant overlooked a distinction which is so clear to us? Of course, there are more reasons than one, but I venture the suggestion that Kant's adherence to Newtonian mathematical physics as the only allowable form of science has played a great rôle here For those fundamental concepts, or categories, which are essential for Newtonian natural philosophy seemed deducible from Aristotle's theory of syllogism, and this seemed again a confirmation of one of the fundamental axioms of that philosophy, which has prevailed in Europe from the Renaissance to the beginning of the twentieth century That philosophy is essentially a philosophy of continuity, all differences in quality, type, or class, which experience reveals in the world are regarded as appearances only Science with its sharpened insight is no longer deceived by this superficial diversity, seeing to the bottom of all things it sees the essential unity which lies below the apparent multiformity And this axiom holds, of course, also for science and for scientific method One branch of science, mathematics, must give the pattern on which all science ought to be modelled, one method only, that of mathematical physics, deserves the title of scientific method That there is already a fundamental divergence between the mode of thinking of the pure mathematician whose aim is a construction of concepts consistent in itself, and of the student of physics, who has to face a Reality which is far more complicated than such a construction, was not then seen And I think that only the fuller development of the science of the nineteenth and twentieth centuries can show it clearly Now Kant's System of Categories provides the fundamental concepts necessary for Newtonian physics, and the fact that Kant had deduced it from the old and venerable theory of syllogism seemed to confirm the view that the categories of all branches of science had thus been found Even the insurmountable difficulties—well known to every student of the *Critique of Practical Reason*, and especially of the *Critique of Judgment*—which we meet if we try to handle the problems of life, and especially of human and social life, by their aid alone could not shake the firm belief in the soundness of this methodological monism

As far as I can see, this view of the origin of Kant's System

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of Categories goes far to explain one of the most prominent and astonishing features of the European philosophy of the nineteenth century : ¹ that nobody regarded Kant's deduction as sound, nor his results as complete but that, on the other hand nobody tried to construct a philosophy with conceptual tools of a much wider reach than those Kant had used : Indeed for students of Kant's philosophy it was impossible to overlook the fact that the presuppositions of his theory of knowledge are incompatible with Aristotle's formal logic as the only available method of thinking. On the other hand the nineteenth century was no more—perhaps even less—prepared than the foregoing ones to give up these presuppositions immediate consequences of the metaphysics of continuity which seemed the only ones compatible with the demands of Reason. The great triumph of Evolutionism—regarded not as a specific theory to explain certain biological facts but as the main principle of all philosophy—can only be understood if we are aware of the fact that by the aid of this theory Life itself seemed to be approachable by the same method and with the same simple tools which had led to the great discoveries in the field of Inorganic Nature. Some patience still was needed, but in time Soul and Life, as well as inanimate matter, would be subjected to science and explained by the well known methods.

I am well aware of the fact that even in the twentieth century this hope has not quite vanished. Readers of popular scientific literature especially still stick to it. But the great majority of those who are in the field of research themselves will certainly feel the need, which the title of this paper expresses of a philosophy wide enough to embrace the whole field of modern science. For this is the most prominent feature of the philosophical situation not a change in abstract philosophical thinking, but the growth of all branches of science, and of the body of facts they lay before philosophy as the scientific outlook upon the Universe have overthrown the apparently so well founded system which seemed unshakable no longer than a generation ago.

In the following pages I shall try to show—as far as is feasible in a single article of this length—some of the points where our modern scientific outlook is incompatible with the axioms which seemed unquestionable in the eyes of the overwhelming majority of philosophers of the nineteenth century.² Then I shall enumerate

¹ I do not think that even Speculative Idealism starts from fundamentally different presuppositions but it is impossible to enter into details of this question here.

² I have tried to give a more detailed account in my book *Het Waarheids probleem (The Truth Problem)* Tjeenk Willink Haarlem 1926. As this book has been published only in Dutch I am very glad to have the opportunity to come into contact with English readers through this *Journal*.

some of the questions—without any attempt at completeness—which will in any case have to find their place in a new and richer philosophy

The centre and heart of all Kantian and Neo-Kantian thought, the citadel of this huge fortress, is its view of Nature as a closed system. Not only the whole framework of the *Critique of Pure Reason*, the deductions of the Transcendental Analytic, the difficulties of Transcendental Dialectics and the Relations of Science and Faith are centred here, but in the *Critique of Practical Reason* we find the consequences of this view in the double theory of character (empirical and intelligible), the whole theory of morality is founded on that basis and the second part of the *Critique of Judgment* is the unsuccessful attempt to harmonize the ideas of teleology and finality with the theory of this closed system of Nature. The biology of the nineteenth century has wrestled with the same problem, and it does not need further argument to see that Social Philosophy and the Philosophy of Religion are fundamentally determined by this theory of a closed system of Nature. The most consistent of all schools of Neo-Kantianism in regard to its fundamental presuppositions (and perhaps at the same time the most Kantian) the Marburg school of Cohen and Natorp, shows quite clearly that there is no part of Philosophy which must not be altered if this axiom is no longer unchallengeable.

Now, as far as I can see, there are at least four arguments, or rather lines of approach to the problem, which overthrow this theory of a closed system of Nature. Of course they are not wholly independent because they all refer to the same great question, but for a first short statement it is perhaps best to treat them separately without saying anything about their interdependence.

My first point concerns the place assigned to mathematics in Kant's Epistemology. As is well known, Kant holds the opinion that the scientific content of any judgment or theory cannot go beyond what can be expressed by way of mathematics, and by this expression is meant what can be expressed in formulæ, and so as a relation of quantities. Again the Marburg school of Neo-Kantianism shows how far the influence of this axiom extends. Now in my opinion every student of the methods of modern science must be able to see two flaws in this argument of which Kant could not be aware because our modern science did not exist in his time. Whether we study with Rickert and his followers (Weber, Troeltsch, Lask) the Methodology of Historical and Social Science, with Roux and Driesch Experimental Zoology, or with Jennings, Köhler, and Watson the behaviour of lower and higher animals and infants, or with McDougall and Rivers purpose action and

questions of psycho-analysis, everywhere we find large consistent systems of judgment which cannot be brought into mathematical formulæ, nor would they gain if it were feasible. Nevertheless, no student of the theoretical results of such capable investigations can underrate their scientific value. Only methodological dogmatism can seek to defend the view that they are second-rate science, and only the preparatory stage of a really scientific, i.e. quantitative, theory.

Somewhat more difficult to see is the second deficiency of quantitative monism in methodology. I say this from experience. For though I have been a student of, and a writer on, the problems of Thermodynamics for a quarter of a century, I never wavered in my conviction that mathematical physics at least was a wholly quantitative branch of science. Only the last revision of my *Textbook of Thermodynamics*,¹ published in the year after I had finished my volume on the Problem of Truth, revealed to me that a great part, perhaps the larger part, of its content did not fit in with the traditional theory of knowledge. It is not a question of chance, choice, or preference, that the so-called American-Dutch School of Thermodynamics² makes a far greater use of geometry, of diagrams, and of surfaces, than of equations and analysis. On the contrary, this is an essential characteristic of their work. If we have to classify it on methodological principles, the term Morphology or Typology of inorganic matter would suit rather better than Quantitative Science. In its essential aspects it shows more kinship with the morphological and typological methods of the biologist or psychologist than with the purely quantitative methods of, e.g. Van der Waals himself when he built up his famous Equation of State for liquids and gases, though this equation again may lead us over to the morphological field, as the theory of corresponding states proves.

The fact is that even modern mathematics itself can no longer be regarded—as former investigators quite naturally regarded it—as a purely quantitative science. The existence of branches of modern mathematics such as Non-Metric Geometry and Analysis Situs or Topology would be enough to prove this, and there are other points where the categories of Quality and Form enter into modern mathematical investigation. This is of the utmost importance for other branches of science too, because it shows how erroneous is the widespread dogma that exact scientific method is identical with Measurement. Especially in the field of psychology the

¹ Van der Waals Kohnstamm *Lehrbuch der Thermodynamik*, Leipzig, Barth 1927.

² The outcome of the combined work of Willard Gibbs of Van der Waals and Bakhuis Roozeboom and their disciples.

unchallenged dogma that only metrical characters exist, or at least allow of scientific treatment, so that "measurement" and "scientific method" are to be considered as identical terms has done a great deal of harm. But it is impossible to deal with this question more fully here.

Perhaps I have to apologize to some of my readers who may think that I have been out of order in writing the last paragraphs, as they do not see the connection between the questions treated here and the problem of a closed Universe which I promised to discuss. But I must remind them of the fact that the whole theory of a closed Universe is only based on the tacit assumption of the dogma here challenged, that only quantitative or metrical aspects are essential, and that the whole history of the Universe can be expressed by a sufficient number of these quantitative data.

Now the assumptions of the closed Universe go even farther, as is best shown by Laplace's hypothesis of a World Formula, which was expressed in its clearest and classic form for all times by Dubois Reymond in his famous address "On the Limits of our Knowledge of Nature." If only one instantaneous moment in the World's History is given and the fundamental Law of Nature (it is tacitly assumed that this Law exists, and can be given in a set of simultaneous differential equations where Time does not enter explicitly), then Infinite Future and Past can alike be calculated. Of course, the determination of the instantaneous moment and the calculation of any full moment in Future or Past is beyond human powers. But it is within the powers of an Ideal Observer whose mind differs only in degree, not in essence, from the human. For such an Ideal Observer it would be as feasible—as Dubois Reymond says explicitly—to calculate when the Cross will be replaced on the Aya Sofia as it is for our astronomers to calculate the next eclipse of the sun. It is clear that in such a Universe there can only be the appearance of novelty and of change, in Reality no Creative Powers can have any place, the world is something like a kaleidoscope where the small pieces of coloured glass by some trick of mirrors give the appearance of an endless variety, whereas it is only the same unalterable number of pieces which gives this illusion. Now here comes in my second point. It is a well known fact that Bergson has challenged this whole view on philosophical grounds, and that his argumentation is in accordance with the best data from the field of biology and psychology. But the general reader—even if he is interested in questions of natural philosophy—is perhaps less acquainted with the fact that even mathematical physics has given up the idea of the closed Universe as much too narrow a conception. It is not my intention to enter here into the details of the argumentation, the less because I can refer the English reader to expositions

in his own language by scholars of the rank of Whitehead and Eddington. So I should like to make on this question only two short remarks. The first is this. The assumptions of the theory of the closed Universe though very natural in the time of Dubois Reymond and even more so in that of Kant are recognized as arbitrary and even impossible in the light of newer investigations. It is at least questionable whether the words *complete knowledge of one instantaneous moment* have any meaning at all even when they apply to a system consisting of inanimate matter only. For in using this phrase it is tacitly assumed that something like *completeness* here exists. Technically expressed this means that the system is determined by a finite number of independent data, i.e. that it possesses a *finite* number of degrees of freedom. And this is not only quite an arbitrary assumption: the study of quanta has given us good reasons to call it a very improbable one. In the second place the assumption that every motion must proceed in accordance with some differential equation so that it would be possible to study the whole motion in an infinitesimal part of it—as is the case in Newtonian mechanics—was quite natural in the time of Dubois Reymond and *a fortiori* in Kant's time. It seemed to be a direct corollary of the quite indubitable fact that at every instantaneous moment there can exist one and only one situation of the world as a whole. But now—even disregarding the fact that Einstein has taught us to doubt even the latter statement—we know that the case tacitly assumed by Dubois Reymond and Kant is not the general but a very special one. Modern mathematics has convincingly shown that it is by no means always possible to reduce the study of a curve to that of an infinitesimal part of it. And the theory of quanta has made it probable that essential features of intra atomic movement belong to this more complicated type. Perhaps we must already even assume real spontaneity in this realm. And here we come to our second remark which is perhaps even more important than the first. The stringency of the theory of a closed Universe was based in the nineteenth century more on Kant's general theory of Causation than on the more special assumptions regarding the fundamental equations of motion. The great majority of philosophers regarded Kant's proof of complete determinism as valid and even those scientists who were not adherents of Kant's philosophy took it for granted that the slightest admission of indeterminism would involve the impossibility of scientific research. Now it is quite impossible within the scope of this article to enter into a detailed criticism of Kant's proof of Causation and to show by an analysis of the conception of a Law of Nature why his argument does not prove what it is usually supposed to prove. For our purpose it is sufficient to point out

that the last development of mathematical physics has convincingly shown that neither the possibility of experience in general, nor that of special scientific research in particular, is endangered by the hypothesis that certain movements in Nature are *conditioned*, but not *determined*, i.e. that they are partially free or show a partial spontaneity. It may be that within a few years the rapidly changing scientific situation will offer convincing arguments against spontaneity in inorganic matter, which seems at this moment the most probable solution. But even then the result of this last decade of research will not be undone: a certain degree of spontaneity or indeterminism is quite as utilizable as a scientific tool as the theory of strict determinism. It need not be a hindrance to scientific progress, but can be used as an excellent working hypothesis.

So far our argument only shows that the theory of the closed Universe is not a *conditio sine qua non* of experience, and especially of scientific research. Now my third argument comes in. As long as we give attention only to the inorganic world, determinism and spontaneity are both possible working hypotheses, and perhaps it will never be possible to decide definitively between them. Even the vitalistic argument, though in my opinion it provides a full proof that the fundamental equations of physics are much too simple for these far more complicated events, may perhaps be compatible with some more elaborate form of determinism. But the situation changes as soon as we do not confine our theory to the object of investigation, but try to apply it to the investigator himself. He too is a 'psycho physical system,' and Driesch is quite right in stating in the last paragraph of his *Philosophie des Organischen* that he is the one system which cannot be dealt with even in vitalistic categories. We must assume—unless we undermine the basis on which Reason rests—that the molecular movements which accompany thought-processes, including the writing down or the oral expression of the results, are not only, and even not primarily, influenced by the general laws of motion of inanimate substance. The logical, ethical, and æsthetical correlations between the meaning of the judgments which are in the mind of the investigator must, of course, have influence, and an eminent influence, on the results. There is only one way to satisfy this inevitable demand without giving up strict determinism. It is the tacit or explicit assumption that there will be some miraculous pre-established harmony between the laws which govern the thought-processes in valid thinking and the physical laws which would govern the molecular and intra molecular movements. But closer analysis shows that this solution of the riddle does not work, it would force upon us assumptions about the thought-processes, and about consciousness in general which are utterly improbable, if

not impossible. It is not feasible to enter here into the details of this analysis, which I have given in my Dutch publications, but the English reader who is interested in this detail can find in Weyl's book *Was ist Materie*¹ at least a German version of the argument, which though quite independent of my own approach, reaches precisely the same result. Indeed, though I believe that McDougall goes a little too far in his qualification of "the belief in strict determinism" as "a symptom of mental disorder of so mild a nature that there may be good hope of his recovery,"² I agree with him that the belief in a certain creative power of original determination "is a necessity of our moral nature." But I would add that it is even more a necessity of our logical, and therefore of our scientific, nature.

There is a fourth point in the theory of the closed Universe which I should like to mention shortly. As we have seen already, in such a Universe real change is impossible, the theory is framed to guarantee that nothing really Creative or New can occur. So the outcome is a Static, not a Dynamic, Universe. Time has no real meaning. It does not give a new dimension or a new richness to the world, only for those who are deceived by appearances does Time seem to add something to what the Ideal Observer would conclude already from his observation of one instantaneous moment. Now the whole feeling of the last decade is in opposition to this static view. Einstein's theory, though in itself not incompatible with it, has done a great deal for what I have called the Rehabilitation of Time, i.e. the belief that Time is not some useless rudiment, some superfluous appendage of Reality, but an essential dimension which gives the opportunity for fuller realization and greater richness than a static world could reveal. Professor Whitehead expresses the same view of the world when he says that not static "positions" but "events" compose the world of which our lives are parts.

In the foregoing pages I have tried to show why the philosophy which satisfied the scientific demands of the nineteenth century must be widened and enriched to cover the much more complicated needs of our intellectual and emotional outlook. This criticism, though negative, is unavoidable, we must destroy before we can lay foundations for a new construction. But of course the latter is of much more importance than the former. So I will try in the pages which follow to enumerate some of the most essential features of the new philosophy which I hope will be built up by the common efforts of the coming generation.

In the *first* place, the new philosophy will have to recognize Quality as well as Quantity in the world. The idea, inherent in all

¹ Berlin Julius Springer, 1924

² *Outline of Psychology*, p. 448

European scientific thought since the days of Descartes and Locke, that Reality itself possesses only a few modes or perhaps only one, and that qualities are something apparent, epiphenomena only, must be outrooted. We shall have to realize that the greater a system, the more complicated its nature, the richer is the variety of qualities which it displays. The Category of the Whole as something which is greater and richer than the sum of its Parts must be one of the tools of our new approach. Here also we find the ground for philosophical work prepared by modern physics with its sharp distinction between molecular and macro-structural properties. Some twenty years ago I found it very hard to come to an agreement with one of the most eminent of European thinkers on my thesis that the element or the individual must be poorer in qualities than the whole to which it belongs. Now I suppose Professor Alexander will not have found much criticism either in Great Britain or on the Continent of those parts of his exposition in *Space, Time, and Deity*, where the same opinion is defended. But we owe the general acknowledgment of this new insight perhaps even more to psychology than to physics. All the newer forms of psychology, psycho-analysis, and behaviourism, as well as the 'Akt-Psychologie' of Külpes school, the Gestalt Theorie of Köhler and Koffka, and the Verstehende Psychologie of Jaspers and Spranger, however widely they may differ on other points, agree here. As a consequence of these newer theories, personality which seemed to be wiped out from European philosophy once for all by Hume's attack, personality which by a happy inconsequence only found entrance by a back door to Kant's Practical Philosophy at least, will be one of the most fundamental, in my opinion the leading, category of the new system of thought.¹ For this point I can refer the reader to Professor Macmurray's interesting article in this *Journal* with which I fully agree.²

But if we handle quite seriously this question of the Whole as being more than the sum of its elements, and of Personality as a Constitutive Category of Reality, we shall find that we must come to a revision of our conception of Truth. And here I come to my second point. It will be clear from the foregoing discussion that neither formal logic nor the methodological monism of former centuries can meet the demands of our present situation. Scientific method will be a unity—I do not doubt that—but not a unity of

¹ I cannot of course sketch the full development of modern psychological thought within the scope of this paper. And perhaps the English reader will not miss a lengthy exposition here because the newer philosophy in England seems to me to have given much more attention to the question of personality than Continental philosophy has done.

² 'The Unity of Modern Problems' April 1929

uniformity, a great variety of scientific methods is needed, and only together will they carry the weight of modern research. I do not think here of the old distinction between inductive and deductive logic, for I do not believe that these are really distinct methods. At least I am not aware of any train of thought longer than could be printed in a few pages which proceeds only on inductive or deductive lines. The varieties I had in mind are of a more fundamental order, *e.g.* the handling of quantities and measurement, that of non-metrical properties, the building of types in morphology, and the method of "comprehension" (*Verstehen* and *Einfühlen*) in the approach to mental problems, and by the side of these methods of empirical science, the constructive operations in mathematics and allied branches of science, the phenomenological method of Husserl and the normative approach to the Realm of Values. None of these can be omitted as tools from our new theory of knowledge. But we have to face an even more fundamental problem than this variety of methods. Traditional epistemology can be characterized as *one-dimensional*. It tacitly assumes that a system of knowledge is built up in the following way. We start from a thesis which is self-evident and absolutely safe. Then we proceed by reasoning. The next step can only be taken by means of a logically convincing proof. So we construct step by step, link by link, a chain of reasoning which does not go farther than logical evidence admits. And the whole chain is no stronger than its weakest link. If the starting-point loses its evidence, or if the proof of one of the intermediate steps is found to be not absolutely valid, the whole thing comes crashing down like a picture from the wall if the nail becomes loose or the string breaks by which it is supported. In this theory of knowledge the so-called *experimentum crucis* plays an important role. If two theories about a certain subject are at variance, the investigator tries—it is said—to find a point where experiment can finally decide. On such a point one theory demands one experimental result, and the other a different one, and by experimental test one of the theories is definitively proved false. But in the real life of science such a simple case never occurs. At least I am not aware of a single case in the whole history of physics, the branch of science with which I am best acquainted.

What really occurs both in individual branches of science and in philosophy is this. There are built up great systems of knowledge, partly by logical reasoning and proof, and in great part also by intuition. Even the formulation of the simplest empirical extrapolation-formula in physics surpasses already that which can be strictly *proved*. There are always more possibilities than one to cover the experimental data, theoretically speaking, there are, indeed, always an infinite number of them. So the decision, without which

scientific research is impossible, is not founded on logic alone, it is a supra-logical decision.¹ And the criterion of the truth or falsity of such a decision does not lie in this individual step. The question whether one isolated judgment is true cannot be answered "*True*" is a predicate not of isolated judgments but of whole systems of knowledge. And the connections between the various statements which belong to a system can never be brought into a one-dimensional chain of syllogisms, this inter-connection is of a high degree of complexity. The more each judgment is brought into direct comparison with all the others to see whether they fit in together, the greater the consistency of the system, and the more numerous the places where it comes into touch with direct experience the greater becomes its validity and probability. And a scientific or philosophic system does not fail because on one special point an *experimentum crucis* gives decisive proof convincing to every rational mind that it is no longer defensible. It loses its adherence by and by, because it has to grow more and more artificial and awkward, and must take in more and more hypotheses *ad hoc* to explain new facts, whereas these new facts can be explained quite simply, and even be predicted by some other concurrent theory. Take as an example the Ptolemaic theory of the solar system. Copernicus did not give a mathematical proof that it was incorrect, he only showed that a much simpler theory was possible. And an astronomer of the rank of Tycho Brahe for a long time still preferred the older system. But in the scientific opinion of later generations there came not a *disproof*, but a *collapse* of the older view, it was *weighed* by an increasing majority of experts in the field and found too light, though none of them could have given an absolutely stringent proof of its impossibility. It would be easy to give many other examples taken from the history of science. Let me point only to the revolution in psychology in our own days, the collapse of association psychology, and of every form of psychology which tried to build up the mind out of a mosaic of "psychic elements."

But this new insight into the nature of Truth, and into the way in which it is apprehended, in combination with our remarks on typology and personality, gives rise to a very grave problem, the *third* to which I should like to draw attention here. Every system of judgments must be based on direct experience. Only when it fits and harmonizes a great many facts with experiences which we can immediately verify ourselves can it convince us. Now this experience need not be of a cognitional nature only, and for a more general system an outlook on the world and human life, this would even be impossible. Here judgments based on emotions, feeling and value, judgments in the realm of ethics and aesthetics, perhaps of

¹ At least if we identify logic with a *finite* number of syllogisms.

a religious nature will come in. And they have to come in if the system seeks to be wide enough to deserve the name of a philosophical system. But now we have to face the problem whether there is only one Truth or a plurality of Truths perhaps as many as there are types or even individuals in mankind. But does not the idea of Truth, and with it all scientific and philosophic investigations, thus lose its significance?

The full analysis of this situation would demand much more space than I can give it here. Let me say only that the unity of mankind, and in this connection also the unity of Truth—though they are not identical—are questions of Faith, not of demonstrable knowledge. The conviction that the adherent of Schopenhauer or of the theory of Nirvana will in the long run agree with the follower of Goethe or with the disciple of Christ rests on a basis of hope, not of experience. In former centuries most philosophers thought—and perhaps some of them hold this opinion still—that if their colleagues would only be acute and intelligent enough, they would give up their false positions, and come over to the only one that seemed defensible—their own. Now I should like to express my deep conviction that the one thing we ought not to do in the new philosophy is to try this again. Perhaps the most necessary thing we want in philosophy is to know what is provable and what is not provable. Of course we can in some degree control the thinking of other people even in questions of *Weltanschauung*, and without this possibility philosophy as a science could not exist. We can point out errors convincingly, and we can draw attention to data which were omitted. But we cannot change the whole attitude, the whole line of approach of the adherent of a view of the world which is not our own, because in his adhesion his deepest experience is expressed and it is beyond our power and *a fortiori* beyond our purely intellectual power to change it.¹

Only one thing can be done to set philosophic discussions on a strictly scientific basis and here we must meet the *fourth* point. As I said above, I am far from accepting the idea that each branch of science ought to make use of mathematical methods. But there is one field of mathematical study which philosophy cannot neglect without detriment, *i.e.* axiomatics. Perhaps one of the greatest discoveries of nineteenth century mathematics is that more than one system of geometry can be built up consistently. These systems differ all along the line because they start from different sets of axioms, their value lies in the stringency of the development, and

¹ A closer investigation of the circumstances which constitute this experience cannot be given within this paper. *Vide my paper 'The Necessity for a New Philosophy and its Bearing on Missionary Work' in The International Review of Missions of April 1930.*

this consistent development is possible because the set of axioms is not self-contradictory. In philosophy we meet with a case not identical, but analogous. We have to recognize that more than one self-consistent system is possible, because there is more than one set of axioms possible which is not self-contradictory. The scientific value of a philosophical system will depend on the consistency of its reasoning and the breadth of experience which it can cover, starting from its own axiomatic presuppositions. Immanent criticism of such a system, i.e. criticism which does not transcend this set of presuppositions, will be possible for every normal human mind. But the question whether we ourselves will accept this whole outlook on the world and life cannot be decided on rational grounds alone. We can identify ourselves only with a philosophy in which the same 'deepest experience' is expressed on which our certainty in life, our ultimate confidence, is based. It is the task of a new branch of philosophy, the typology of Weltanschauungen to investigate the possibilities which here exist. Dilthey and his school have inaugurated these investigations out of which many exceedingly interesting problems arise but the scope of this article forbids us to enter into details.

To a *fifth* point, however, I must draw attention in this connection. It is the rôle which differences of language play in the totality of philosophical systems. Greek philosophy¹ as well as mediæval philosophy was deeply convinced that Truth was ultimately and adequately expressible in words. Even the philosophy from the Renaissance down to our own time was not aware of the extent of the influence of language on thought. Of course, the danger of ambiguity was seen and some other minor points. But only in the last decades and by the aid of recent study of languages of a structure totally different from that of those of Western Europe, have we discovered the full meaning of this mutual dependence. Here, too it is of the utmost importance to see that philosophy has not to deal only with cognitional values, but that its deepest roots are in the field of emotional values, our philosophy depends ultimately on our ethical, æsthetical, and religious judgments. Now the more we approach these deeper layers of the soul, the greater is the need of harmony between verbal expression and sentiment, but the more difficult is its fulfilment. That is why some experiences are expressible only in poetry or in language of a special style. If this thesis is valid already for the various forms of expression within the same 'language,' it is *a fortiori* true for language of divergent types. Of course, here also we may have faith in the ultimate unity of mankind, we may have hope that some understanding and even a deep understanding, is possible, and can be furthered by mutual

¹ With the exception however, of Plato. *Vide* his seventh Letter

effort This whole article is an effort in that direction, and I can only express my sincere hope that the difference of language between my readers and myself will not be too great a hindrance for them. But the tacit assumption of former philosophers that Truth, the whole Truth and nothing but the Truth, can be adequately expressed in words is without doubt not the only possible supposition. It may be that all languages of the world if they are developed long enough will tend to the same limit, but this is necessary only if we assume that Truth itself has a finite content. If Truth in itself is infinite, and therefore inexhaustible in word systems it might well be that different languages, as well as different types of mankind, without being in contradiction with each other, would give expression to different sides or aspects of Truth. In the language of Religion we could express this conception by saying that the Richness of God is greater than can ever be seen or expressed not only by one individual, but by the totality of human beings. Of course, here also it is of the utmost importance to distinguish between differences of expression which are compatible with each other, which can be combined as the various instruments in an orchestra to a higher and fuller harmony, and differences of expression which are incompatible with each other. These latter, of course, cannot both have their place in Truth.

The consequences of this insight into the nature of language are very far reaching, it is quite impossible to develop them here at length. One point only I should like to explain—my *sixth* and last—because there is a very close connection between just this point and my remarks on page 167 with regard to Time. Philosophy in the past, ancient as well as mediæval and modern, has drawn a strict distinction between processes in time and the eternal and unchangeable verities. This was regarded not only as a difference in kind, but also as an essential difference in value. Especially in the field of ethics ought we to follow Eternal Truth. Therefore our life ought to be guided by formulations which are themselves eternally valid. Idealistic Ethics from Socrates and Plato down to Kant and Fichte has held this view. In the light of our remarks on language, however, it becomes doubtful whether this is the only solution of the ethical problem, nay, even whether it is a possible solution. If every expression in words is only partial and preparatory, it is questionable whether our decisions in practical life can be deduced from general principles, and the more so if we agree that neither Time nor Personality is meaningless, for only if we deny creative force to either will the same situations return. Such recurrence is the consequence of a mechanistic view of the Universe, and it is assumed, *e.g.* in Nietzsche's theory of "Eternal Return." If there is creative force in personal life, then the situation which

we have to face has never been in the world before, nor will it ever return again. And as the differences between two situations then are not merely quantitative, but are differences in quality, in kind, and in structure, it is impossible to reduce a situation to nothing more than an embodiment of abstract principles, or to deduce from such principles the proper behaviour in such a situation. It is interesting to see how also in recent German ethical and social philosophy this problem of the concrete situation comes to the fore. Now it is quite easy to recognize the concrete situation as something absolutely new and fresh which has never been in the world and will never recur, if we give up the idea of eternal value and become relativists, not in the Einsteinian but in the sceptical significance of the word. But that is not a philosophic solution, it is, on the contrary, a dissolution of all philosophy. Only a philosophy which shows the way out of this difficulty can meet the needs of our time. But to sketch even in some outlines the idea of such a philosophy is a task which completely transcends what is possible within the scope of this short survey.

HOBBS' PHILOSOPHY AND ITS HISTORICAL BACKGROUND

Z. LUBIENSKI Ph.D.

THOMAS HOBBS of Malmesbury, one of the greatest philosophers of law and state, died 250 years ago on December 4, 1679. His name was so frequently associated with a certain unfortunate conception of his moral and political philosophy, that the public's lack of interest in this centenary is not to be wondered at. So far, even amongst the scholars who admitted his merits, few tried to penetrate into the depths of his thought, and only at the end of the last century, thanks to the writings of Ferdinand Tönnies and George Croom Robertson, was a new impulse given to research into Hobbes' spiritual heritage. A series of monographies was published, and the personality of Hobbes appeared in a new light. His theories, when better known, proved to be less crude and more human than they had seemed, for they are a reaction from the revolutionary tendencies of his time. At the beginning of our century the Great War aroused new interest in the personality of Hobbes, for his proverbial sayings, 'bellum omnium contra omnes' and 'homo homini lupus,' suddenly became a terrifying reality. Although a calm outlook is sounder than pessimism, nevertheless common sense demands that we should keep our eyes open and see things as they are, even should reality be displeasing. This is the only guard against light-hearted carelessness or morbid apathy, and is the best guarantee of a perfect balance. Hobbes' philosophy possessed precisely that character of balance and common sense that made him foresee the Great War, and, furthermore, the subsequent striving for general peace resulting from a comprehension of the disastrous consequences of hate and murder. A number of scholars emphasized the fact that the present pacifist movement fulfils the dreams of this great enemy of war.

As the number of 'Hobbiists' grew in many countries, it became necessary for them to meet in order to concentrate and co-ordinate their efforts into a methodical co-operation. An international congress was organized in Oxford at the end of September, which was attended by the delegate of the 'British Institute of Philosophical Studies,' as also by representatives of different branches of philosophical and political science in England and abroad. The immediate result of this was the foundation of a Hobbes Society, similar to the one founded two years ago for the Spinoza centenary. It is hoped that it will mark a new phase in Hobbesian research, and will render this great thinker more universally known and appreciated.

The object of this article is to outline the philosophical system of Hobbes on the background of historical events in order to show up their influence on him and on the other hand his influence on the ideas of later periods.¹

Hobbes was born in 1588 in Westport (Wiltshire) not far from Malmesbury hence his Latin surname Malmesburiensis. His family was not well to do but fortunately a wealthy uncle paid for his education first at Malmesbury and Westport later at Magdalen Hall (now Hertford College) Oxford. Here it was that Hobbes studied scholastic philosophy for five years until he obtained the degree of Bachelor of Arts. This scholastic training left its trace on his mind throughout all his life even though in later years all his scientific activity aimed at the destruction of the very theses he had to defend before his teachers. The latter evidently esteemed him highly for they recommended him as teacher for the son of Lord William Cavendish later Earl of Devonshire.

¹ Among the books and dissertations in English on Hobbes' life and philosophy the following are to be recommended: G. C. Robertson *Hobbes* Blackwood's Philosophical Classics, Edinburgh and London, 1910; F. Brandt *Thomas Hobbes: Mechanical Conception of Nature* (translated from the Danish) Hachette, London, 1928; L. Stephen *Hobbes* Macmillan, London, 1904; Phyllis Doyle *The Contemporary Background of Hobbes' State of Nature* *Economica* No. 21 (December 1927); W. G. Pogson Smith *The Philosophy of Hobbes* (inserted in an English edition of *Leviathan* at the Clarendon Press, Oxford, 1909). Among the most remarkable in other languages are: F. Tönnies *Hobbes' Leben und Lehre* 3rd edition Frommann, Stuttgart, 1925; V. Beonio-Brocchieri *Studi sulla filosofia politica di T. Hobbes* Bocca, Torino, 1927; C. Brockdorff *Hobbes als Philosoph, Pädagoge und Soziologe* 2nd edition Lipsius, Kiel, 1929; R. Höhnigswald *Hobbes und die Staatsphilosophie* Reinhardt, München, 1924; G. Jaeger *Ursprung der modernen Staatswissenschaft und die Anfänge des modernen Staates* Archiv für Geschichte der Philosophie 14, 4; A. Levi *La filosofia di Tommaso Hobbes* Soc. Ed. Dante Alighieri, Milano, 1929; G. Sortais *La philosophie moderne depuis Bacon jusqu'à Leibnitz* Tome 2, Livre 2, pp. 270-584; G. Tarantino *Saggio sulle idee morali e politiche di Tommaso Hobbes* Giannini, Napoli, 1905, and many others.

The chief editions of Hobbes' works are the following: *T. H. M. Opera philosophica quæ latine scripsit omnia collecta studio et labore Gulielmi Molesworth* Vols. I-V, London, 1839-1845 (specified in quotations with the letter L); *The English Works of T. H.* collected and edited by Sir William Molesworth Vols. I-XI, London, 1839-1845 (specified with the letter E). Unfortunately this edition is most imperfect and full of mistakes so that for precision it is better to consult the original editions. So far only two works of Hobbes have been published correctly and are due to Tönnies. These are *The Elements of Law* 2nd edition University Press, Cambridge, 1928 and *Behemoth or The Long Parliament* London, 1889 (out of print). The first had been reprinted by Molesworth from the first incorrect edition in two parts under the titles *Human Nature* and *De Corpore politico or Elements of Law*. The necessity of a new correct edition of Hobbes' works was discussed at the above mentioned congress at Oxford. The chief obstacle is the difficulty in collecting the necessary funds.

At that moment began a new phase in Hobbes' life. He travelled in France, Germany, and Italy, he made the acquaintance of many celebrated scholars and thinkers, and under the influence of new impressions his mind matured, preparing for future activity.¹

In 1629 Hobbes published a translation of Thucydides' *History of the Peloponnesian War*. The choice of the subject shows his early interest in politics, but it was only from 1640 onwards that he became wholly absorbed in political activity. During the sitting of the Short Parliament he wrote a first outline of a philosophy of State under the title, *Elements of Law Natural and Politic*. Soon afterwards he had to face the attacks of his opponents, which became so fierce that Hobbes had to flee to Paris. Nevertheless, not even that could turn him away from his beloved politics, and during the next ten years he worked out and developed his political theory. This he expounded in the pamphlet *De Cive* (first published in 1642, reprinted with corrections and additions in 1647), and in his masterpiece published in London in 1651 under the title, *Leviathan, or Matter, Form and Power of a Commonwealth Ecclesiastical and Civil*.

After the publication of this work Hobbes returned to England where the Civil War had ended with Cromwell's dictatorship. He remained in his country to the end of his life, always absorbed in scientific activity. In 1655 appeared his important book *De Corpore*, and in 1658 *De Homine*, which contained an exposition of a mechanical cosmology showing a psychological insight remarkable for his time, as well as a chapter on metaphysics and physics, especially on the author's beloved optics. Besides these, he published many other books and pamphlets on various subjects. He wrote much on mathematics, and in this realm had to stand the opposition of the famous mathematician John Wallis. To several of his books he gave the form of a dialogue or discussion, and of these the most interesting is his dispute with Bishop Bramhall on the question of Free Will. Towards the end of his life he worked at historical subjects, translated Homer, and also wrote an autobiography in verse. He died, a very old man, in 1679.²

Now let us cast a glance at the age in which Hobbes lived and which forms a background to his activity. The seventeenth century had been preceded by great upheavals in the realm of politics and economics, as well as in that of thought and religion. The invention of printing, the discovery of America, the new astronomical theories of Copernicus, were facts which produced a complete change in

¹ He had relations with Francis Bacon, Herbert of Cherbury, Gahleco, Gassendi, Descartes, Mersenne and others.

² All details of Hobbes' life are best reported in the above-mentioned work of Ferdinand Tönnies.

current ideas and customs. A true "Reformation" began to transform all aspects of life. Through the influence of experimental science the old scholastic, rationalistic philosophy gave place to a more empirical, critical way of thinking. Whereas the first is based on dogmatic assertions, the new philosophy admitted nothing without proof and tried to gather direct data from the senses.

Whilst ideas changed, the economic conditions of life were also transformed, giving rise to many new problems. Philosophical thought therefore abandoned sterile speculations and sought to solve the new difficulties. In the first place there were the capital questions of religion and politics. The powerful movement towards freedom, which began with the Italian Renaissance, urged people on to a revision of the limits of ecclesiastical and civil power, and after the effort to liberate themselves from papal authority, they tried to lessen the power of the monarchy.

The Reformation of Luther had weakened the authority of the Pope, but it had not imposed a cohesive system of dogmas to replace those it had rejected. Consequently Christianity broke up into a multitude of sects, each of which attempted to impose upon the others its own interpretation of the Bible. In all countries disputes and religious wars arose. Everywhere confusion reigned and a calm development of economic and intellectual life was impossible. Then in the minds of a few eminent men who remained above the fanatic struggles of the crowd there arose the desire to find a common platform on which all people could meet, and to establish the fundamental truths to which all could acquiesce. Thus they sketched the outlines of a natural religion, Herbert of Cherbury being the first to speak of this. Furthermore, many endeavoured to establish morals independent of any supernatural element. Charron, Francis Bacon, Grotius, and others, worked on these lines, and amongst them Hobbes played an important part.*

Nowadays it may seem strange that in politics so much importance was attached to religious belief, instead of each person being left free to believe what he chose, but it is necessary to understand that in those days the new idea of moral freedom was far from being put into practice. One of the first men to demand it publicly was Roger Williams, who in 1644 published a protest against religious persecutions. However, much time elapsed before theory became fact. In the meantime Church and State had so many common interests that their separation seemed unthinkable. In those countries, therefore, which liberated themselves from the authority of the Pope, the Governments had to assume his power. The religion of the sovereign

* W. Dilthey, *Gesammelte Schriften* Vol. II, *Weltanschauung und Analyse des Menschen seit Renaissance und Reformation* 3rd edition Teubner Leipzig and Berlin 1923 pp. 106 sqq. 247 sqq.

HOBBES' PHILOSOPHY

became obligatory for his subjects. Complete religious freedom was not even dreamed of by the persecuted sects, all they asked was tolerance and deliverance from continual vexations. The interference of the Government in religious matters gave rise to numerous controversies concerning the relationship of the civil and ecclesiastical powers and concerning their respective rights. Not only theologians discussed these, in England, besides such scholars as Andrew and Donne, King James I, who was keenly interested in theology, took part in religious disputes and tried to refute eminent Catholics such as Suarez, Bellarmine, and others.¹

None of these struggles were ignored by Hobbes. It seems that in theory he was a partisan of religious freedom, but in practice he considered that for the sake of public peace it was necessary to submit to the Commonwealth the ultimate decision in religious as in worldly matters. This was because he considered it a compelling necessity to strengthen the shattered authority of the Commonwealth, since strong government alone could restore order and bring to an end the continual religious struggles.

The latter were frequently an outcome of economic misery and faulty political organization. However, the transformation of the mediæval Commonwealth into a modern one could be effectuated only by a strong Government. And, in fact, after that period of troubles, in nearly all countries absolutism was installed.

This had been foreseen earlier by a few thinkers, and so at the beginning of the sixteenth century Machiavelli defended the principles of the sovereignty of the Commonwealth, and later Jean Bodin developed the theory of absolutism in a way very much akin to that of Hobbes.

At the same time there appeared contrary theories, defending the rights of the people in opposition to those of the rulers. The most interesting were those based on the principle of social agreement, drawn from antiquity. The chief representatives of this current before Hobbes were Althusius and Grotius. The latter stood for the School of Natural Law which based the commands of civil law on purely rational principles, independent of supernatural factors.

All these problems and disputes which absorbed people's minds in the sixteenth and seventeenth centuries had their counterpart in the political life of Great Britain. The course of events here was of a peculiar character, and the difficulties were solved in a way different from the Continent.

Religious struggles kindled by the Reformation here took a purely political turn and became an open fight for power between King and Parliament. Contestations of the King's power, which dated from the

¹ L. Stephen *Hobbes loc cit.*, p. 179

famous "Magna Charta Libertatum" of King John had calmed down, nevertheless they could be restimulated on the slightest occasion. In fact this occurred when religious troubles and mismanagement of public affairs discontented the people. After Henry VIII had abolished the supremacy of the Roman Church, the country was rent in two, as one after the other the kings who followed him reinstalled or abolished the unity with Rome. As each Government demanded absolute obedience to its orders regarding religious rites and persecuted its opponents, it is easy to imagine the resulting chaos.

At last Queen Elizabeth's moderate policy strengthened the power of the throne and brought some peace to the country. She made some wise concessions to the Parliament and obtained, in return, the liberty to carry out her own plans. In religious matters her efforts were directed to supporting the authority of the Episcopal Church and to subduing the Catholics and Puritans. This policy had deep motives. The Episcopal Church considered the King as its head, and consequently supported the throne, whilst the Puritans, whether the moderate Presbyterians or the radical Independents, carried their democratic ideas into the field of politics, and demanded the same rights in the administration of public affairs as the faithful had in their churches. The Presbyterians, therefore, tried to divide the sovereign power between King and Parliament, and the Independents wanted to introduce a purely democratic government. This explains how the Queen, while putting a break on their religious liberties, checked their political influence.¹

The circumstances changed completely during the reign of her successors. James I (Stuart) tried to exploit the splendour that Queen Elizabeth had given to the throne and restore absolutism. However, he equalled her neither in genius nor wisdom, and his wastefulness and lack of financial ability, as also the corruption and protection in his court, disgusted the people and provoked discontent. Moreover, when neither the unfortunate pro-Spanish policy nor high taxes succeeded in covering the deficit in the treasury, and when in order to find a solution Parliament was convoked the latter demanded the right to control the use to which the taxes were put. The House of Commons at that time consisted mainly of the wealthy middle class, whose interests were endangered by the wasteful policy of the King. This explains the strong opposition of the Parliament and its efforts to limit the King's prerogatives.

Meanwhile events carried the oppositionists farther than they had at first intended. During the reign of Charles I, who, like his father, refused to give up any of his power, whilst being equally incapable of remedying the evils, the tension became more acute, until it ended

¹ A. Stern *Geschichte der Revolution in England* Grote Berlin 1881

in open war between King and Parliament. The King's lack of sincerity and reliability rendered impossible an understanding regarding the division of power. Finally, with the victory of the Independents, Cromwell took the reins of government in hand, the King was beheaded and monarchy abolished in 1649.

During all these events England was divided into two opposing parties: the defenders of the King and the partisans of Parliament. Each of these had its representatives in literature. For some time already numerous pamphlets had appeared expounding the theory that kings inherited the throne by the Grace of God, so that their power could never be limited by human laws, not even by the kings themselves. These theories were collected after the tragic death of Charles I and published by Salmasius under the title *Defensio regia pro Carolo I*. The answer of the Republicans came from the pen of John Milton.

All these struggles and controversies made a deep impression on Thomas Hobbes and inspired his political writings, which were composed chiefly in the eventful years between 1640-1650. S. R. Gardiner maintains in his *History of the Commonwealth* that Hobbes' political theories were a reaction of monarchic ideas caused by the excessive parliamentarism which drove the country to long civil war. Indeed, not only in Hobbes' monarchic views, but in all his system it is easy to detect repercussion of contemporary events.

There is one thing, however, that has not as yet been emphasized, and that is Hobbes' *Theory of Duty*. At a time of general dissolution and confusion, when religious principles were losing their hold on the people and radical elements abused the concept of the rights of nature, demanding liberties without limits, when levellers tried to abolish private property and introduce Communism, Hobbes considered it to be his mission to expound and motivate the importance of civil duties. All his work aimed at the restoration of order and at the exaltation of governmental authority. This will become clearer to us if we try to penetrate deeper into the principles of his system.

Contrarily to the Scholastics' dualistic theories, Hobbes considered matter as the unique reality. The world, according to him, consists of very small particles which move continually and which are the cause of the processes of cognition and volition. These

* *History of the Commonwealth and Protectorate 1644-1656* Longmans Green and Co. London 1903 Vol II pp 77 sqq.

* Hobbes' conception of matter is a very broad one: it is equal to the idea of spacial extension. Therefore several authors warn us against any one-sided and mistaken interpretation of his materialism. Brandt (*op cit* p 379) calls him even motionalist instead of materialist, as his conception of motion plays a much greater part in his system than matter.

particles act on the special faculty of knowledge where they lut upon a contrary movement, proper to each being, which is the vital motion. The shock of the two motions produces in the perceiving subject an image of the preceived object. According to whether the action of the object helps or hinders the vital motion, the subject reacts with a sense of pleasure or displeasure. These feelings arouse automatically corresponding impulses, or, as Hobbes calls them, 'endeavours' which are appetite and aversion, and from which all other motions of the will proceed.

However, according to Hobbes, pleasure and displeasure, and consequently appetite and aversion are not only produced by objects actually perceived, but also by the image of objects previously known. On the other hand, through reasoning the mind comes to conclusions which also present themselves as images. The effect, therefore, produced by any object is strengthened or weakened by the previously accumulated experiences and reasons. Although man's decisions are always determined by the influence of objects whether actually perceived or only imagined, yet these decisions can also be guided by the consideration of future pleasure or displeasure, and in seeking pleasure man's activity is directed not so much to a momentary, fleeting one, as to a lasting and full satisfaction of his whole personality.

But not even that is the ultimate goal of human activity, as, according to Hobbes' clearest expressions, the sense of pleasure or displeasure is only a sign of that which helps or hinders the vital motion. The ultimate goal of all actions, therefore, is the furtherance of life, i.e. the most intense development of all natural and sound tendencies. Life itself is then that supreme good, to the fullest realization of which all mankind, whether consciously or unconsciously, tends.

This thoroughly individualistic anthropology was to be used by Hobbes as a foundation for his ethics. Consequently in the latter appeared the defects of its premisses. And so, since in the theory of impulses he considered the vital motion as the unique central tendency and gave no place to innate social feelings, so in his ethics he admitted only egoistic aims. To these, all other tendencies, such as the desire to help others or to give in to them, had to be subordinated if they were to be considered as rational, moral and in harmony with the postulates of ethics. That is why Hobbes had to limit his teaching of morals and establish a code based on negative principles, as it is easier to enumerate the things that hinder life than those that further it. First of all, in order to live it is necessary to avoid death. On this principle Hobbes based all his system of ethics, and he tried to formulate rules which men must follow in order to main-

¹ *Leviathan* chapt vi p 25 (E iii 42) *De Homine* chapt xi 15

tain their lives as well as the necessary means for its preservation.¹ This does not mean that Hobbes limited ethical actions to those directed to the sole preservation of life, as his critics generally pretend. On the contrary, such narrowing of human tendencies would be in contradiction with the whole system. Nevertheless, the principle of self-preservation could serve as an excellent basis for this part of ethics which deals with the civil law, and could supply logical reasons for its precepts. This was all the more important for Hobbes, as all his ethics were imbued with a political tendency.

The rules which express the indispensable conditions for the preservation of life are called by Hobbes "laws of nature," and the essence of moral duty lies in the conformity to these laws. But since all human actions are strictly determined, being a resultant of external and internal forces acting in the moment of ultimate decision, the conception of duty, with Hobbes, takes on a very peculiar meaning. Expressions such as "man ought to" or "is obliged to" only mean that such and such conduct corresponds to the cosmic laws and to the inborn desire of life proper to each man. As all men desire life, so *they desire* to avoid whatever may threaten it. If it so happens that their actions are contrary to the inborn tendency of self-preservation, such conduct must be interpreted as due to a misunderstanding, they evidently do not realize that the consequences of their conduct are contrary to their most essential desires.² If only a man realizes the consequences of his actions, and at the same time his natural desire for life, it suffices to determine him fatally to act according to the law of nature. Transgressions against the latter are only due to insufficient enlightenment of the mind, and, in most cases, it is the force of passion that obscures the image of duty.

The most curious of passions described by Hobbes is *fear*. His conception of it, as of all other affects, is strikingly intellectual. It is defined as an aversion coupled with the opinion of possible damage.³ Since appetite and aversion follow automatically upon the corresponding images, the contents of the image determine the kind of fear. Sometimes, therefore, it may happen that the image representing a future damage is *absolutely clear*, in which case "fear" means the *foresight* of that damage. Nowadays we would use the word "apprehension," meaning an intellectual rather than an affective attitude. If, moreover, the foreseen danger threatens life itself or the necessary means for its preservation, then "fear" becomes an act of reason equal to *the sense of duty*, which demands that we should defend ourselves from that danger at all costs.

It is most important for the understanding of Hobbes' ethics

¹ *De Homine*, chapt. vi 6

² *Leviathan*, chapt. xiv, p. 66 (E. III, 120)

³ *Ibid.*, chapt. vi (L. III, 44)

and politics to distinguish these two kinds of fear, one as foresight, identical with the sense of duty, the second as a reaction from a lesser or uncertain evil. In spite of numerous texts indicating these differences,¹ the majority of critics took the word 'fear' in the ordinary sense, as a reaction from evil. That is why Hobbes' ethics have been misjudged as a sort of 'gospel of fear'. It is all the more necessary to emphasize the fact that Hobbes considered this ordinary fear as a low and unworthy motive, which can never be an excuse for the omission of a duty. Nevertheless he considered that in a Commonwealth it is necessary to enforce the law by the promise of reward or the threat of punishment, because most men are guided, not by reason, but by the immediate prospect of pleasure and displeasure.²

Hobbes' theory of the Commonwealth is the continuation, the consequence, and in a way the goal of his ethics. It is based on the premiss that, in order to preserve life, it is necessary to organize a Commonwealth by committing the sovereign power to an individual or to an assembly. The sovereign once installed, cannot be dethroned by his subjects: he has the right to nominate his successor, and his orders must meet with complete obedience. These rights of the sovereign and duties of the subjects result from the fact that, without them, the maintenance of order would be impossible and the world would become a chaos. On account of the universal competition and enmity—the war of everyone against everyone—nobody would be able to preserve his life or enjoy in security the fruits of his labour.

Quite a number of researchers on Hobbes' philosophy have remarked that this idea of war of everyone against everyone does not mean that such was the primitive state of humanity before the foundation of the present Commonwealths: it is merely a sort of logical fiction, meant to demonstrate the necessity for hence the duty of, each man to obey the civil law. A similar fiction is the 'pact of everyone with everyone,' by means of which the citizens choose a sovereign and confer the power on him: there is no necessity for any external formality for the pact to be considered as valid and the Commonwealth as founded. Both acts are effectuated implicitly when they are demanded by reason, i.e. when otherwise the preservation of life and of the necessary means for it would be impossible. This remains in connection with the special meaning which Hobbes gives to the idea of Commonwealth. It does not consist in any specific constitution nor complicated bureaucracy. The only essential is the relation of mutual duties existing between

¹ *De Cive* chapt. 12 (Annotation) chapt. 13 § 5 chapt. xv § 7 etc.

² *Leviathan* chapt. xiv p. 69 (E. III 127) chapt. xxix p. 108 (E. III 197) chapt. xxvii (L. III 213) App. ad *ibid.* chapt. II p. 351-2 (L. III 548) etc.

two parties, one of which is bound to obey and the other to secure safety and the fullest development of life. The number of men submitting themselves to such obedience is of no account, as also the manner in which this submission is accomplished. A conquered people and their conquerors, as well as children and the parents who provide for them, can be considered as parties of a social contract. In such cases their relations are called "despotical, or paternal dominion," and began when one of the parties was overpowered by the other. In different circumstances, &c. when this did not occur, the relation of the parties is a "dominion by institution." However, in all cases the essence of the Commonwealth remains the same. As we see, it is enough that an agreement should be necessary for the preservation of life, to render it obligatory, even if it should not be made explicitly. It suffices for a man to be the master of the life and death of another and yet not threaten to take his life, for it to be supposed that, in exchange for life, the submitting party has entered upon an agreement, and thus a Commonwealth has been established. Consequently families also are small Commonwealths. This is another proof that the "war of everyone against everyone" could never really exist.

Hobbes considers that in every Commonwealth both parties, sovereign and subjects, have duties towards one another. This has often been unjustly denied. And yet the very essence of Hobbes' conception of contract consists in mutual duties, it is evident, therefore, that the same rule must be applied equally to the social contract. Further, it must be understood that, whether in a Commonwealth or in the state of nature, all duties have their foundation in that law of nature which impels everyone to preserve his life. Many historians of philosophy err, therefore, in interpreting Hobbes' thought as if things were good or bad, right or wrong, merely because the sovereign had decided so. This would be "ethical nominalism,"¹ of which in Hobbes there is no trace. However, as the law of nature demands the absolute obedience of the subjects to their sovereign, Hobbes concluded with the famous paradox that, in principle, no order of the sovereign can be wrong or unjust. There is such close connection between the will of the sovereign and the laws of nature that one may consider the latter as being implicitly commanded by the sovereign, even without explicit order from him, provided only that no contrary order has been given by him.² Now it may happen that a conflict occurs between the law of nature and the order of the sovereign expressed in laws, decrees, or in any other way. In that case, again, the subjects are obliged to obey the sovereign, since he alone is allowed to interpret the law of nature in every particular case.

¹ Tönnies *op cit* 1st edition

² *Leviathan*, chap. xxi

The social contract, which lies at the base of the Commonwealth, can be dissolved like any other agreement when the conditions which determined it cease to exist. Since the object of the agreement is the preservation of life, then the Commonwealth is dissolved whenever the sovereign has succumbed to enemies, or when for other reasons he is unable to guarantee security to his subjects. Similarly, as the agreement has been made implicitly, so it is dissolved implicitly when rational motives require it. However when this is not the case reason forbids the taking away or the limitation of the rights of the sovereign power. Otherwise there would be the continual danger of revolutions and seditions threatening the loss of goods or even of life. The sovereign himself cannot limit his absolute power to the advantage of his subjects, as this would be contrary to reason and to the laws of nature.¹ In this way Hobbes arrives at his famous conception of absolutism which has so often been misjudged.

In order to decide in what sense Hobbes can be called a partisan of absolutism, it is necessary first to realize that this word is interpreted in two different ways. One of these is to consider as absolute any Commonwealth which possesses unlimited power, so that private individuals have no rights except those that the Commonwealth bestows upon them. The other more current and accurate conception is that absolutism exists only where the power is concentrated in the hands of one single man or in a unique sovereign assembly, whose power does not derive from nor depend on any other factors.

If we analyse the first definition, we see that it means sovereignty and not strictly absolutism. In this sense all modern Commonwealths, even those which have a parliamentary constitution could be called absolute, as everywhere the representatives of the Government consider themselves competent to decide and regulate all questions arbitrarily. If they grant certain liberties in private affairs to citizens or associations it is because they have decided themselves to do so and not because of the pressure of some higher command. The fact that Hobbes attributes such power to the sovereign is not sufficient reason for calling him an absolutist. On the contrary, it is to be marvelled at that he worked out so perfectly a theory which only later was to be universally acknowledged.²

With regard to the other conception of absolutism Hobbes derived the rights of the sovereign from the will of the people

¹ One can see here the reflection of the theories of the unlimited power of the monarch which had so great a hold on Charles I. but while those theories derived the rights of the king from divine origin Hobbes on the contrary gave them a rational foundation.

² G. Tarantino *Saggio sulle idee morali e politiche di Tommaso Hobbes* Giannini Napoli 1905 p. 111.

(whether explicit or not),¹ and he subordinated them to the law of nature. The sovereign is obliged to govern according to that law, though he need not give an account of his acts to anybody. Therefore he ought not to demand greater obedience than that necessary for the realization of the purpose for which the power has been bestowed upon him: *i.e.* for the prosperity and security of the people.² Furthermore it follows from the context that, on special occasions, when there is no doubt that the orders of the sovereign are contrary to the law of nature (or the law of God, which comes to the same thing), Hobbes grants to the citizens the right of refusing obedience in order to follow the law of nature. This happens, for instance, when the sovereign demands the denial of the true Christian faith. Such cases Hobbes reduces to the minimum, and therefore, in the question of external worship he recommends to the subjects the greatest submission, especially as inwardly everyone may believe what he likes.

Hobbes' decried absolutism appears very different in the light of the above remarks on the character and the limits of sovereign power especially if we add that, in spite of his sympathy for monarchy, he considered that sovereign power can be concentrated not only in one man, but also in an assembly, whether a limited one (aristocracy) or comprising the whole nation (democracy). The only reason for calling him the "father of absolutism" is his teaching on the necessity of concentrating the whole power (executive, legislative, and judicial) in one central organ.³ But even here Hobbes cared more for the maintenance of the theoretic principle than for the practical application. As Tonnies remarked,⁴ Hobbes admits in *Leviathan* a form of limited monarchy in which power would belong in principle to the people, *i.e.* to an assembly convoked periodically, but in practice it would be entrusted for a limited period to a chosen dictator. This would be in fact a division of power in spite of the theoretical indivisibility. This conception is not far from our modern, parliamentary form of Commonwealth.

This outline shows how obviously Hobbes' philosophical system, and in particular his ethics and politics, are connected with the political and social problems that preoccupied contemporary minds. Moreover, this connection is so close that Hobbes' philosophy reflects the transitory character of the time. The intellectual development of this great philosopher, who first studied scholastic philosophy, then became acquainted with new currents in science based on observation and experience corresponds exactly to two phases of European thought. The scholastic training gave him the

¹ *Lev.* chapt. xxi.

² *De Cive* chapt. vi. 13.

³ L. Stephen *op. cit.* p. 198.

⁴ *Op. cit.* pp. 253 sqq.

art of clear definition and the love of syllogisms and deductions, but it burdened him also with a marked inclination for building artificial mental constructions, which he treated as realities. This is striking in his purely artificial psychology, as well as in his conception of duty, which he based on the supposition of an unconscious desire to preserve life. On the other hand, the awakening experimental current impelled him to seek in reality foundations for his premisses, and to look for the confirmation of his theories in experiences and observation of life. In a most curious way, relativity and positivism, which characterized the new currents, met in his system with mediæval dogmatism and inner faith in absolute truth and absolute good.

Hobbes' conception of duty cannot be judged according to the idea we have of it to-day, since for us it consists in an imperative command, which arises not only from rational but also from irrational elements, such as traditions, habits and social influences. For Hobbes himself, as we have already seen, the idea of duty did not embrace the whole domain of ethical actions, the latter reached much farther. But even so his conception seems to us shockingly one-sided and lacking in elevation. We must remember, however, that all the philosophy of Hobbes is a reaction from the mistakes of his time, and if he limits and impoverishes the idea of duty, it is because until that time this idea had been exceedingly vague. He wanted to do away, once and for all, with the empty, insipid phrases of bigots and political agitators, and to oppose to them a solid, universally valid conception which could be easily verified. However, his efforts came to nought because of the very nature of the question, which cannot be solved *modo geometrico*. So that, although he narrowed the conception of duty, he did not succeed in proving what he had set out to do: the necessity of obedience to the established sovereign. He put forward as chief argument the fatal consequences of revolution and anarchy which threaten society, consequently also private individuals. Yet it is evident that there are people who thrive on upheavals and derive profit from disorder and struggles: hence revolutions occur periodically in the history of the world. It cannot be asserted that what is necessary for public security is equally necessary for the self-preservation of the individual, therefore Hobbes himself had to admit exceptions and allow disobedience on certain occasions. He did not realize that these concessions overthrew all his preceding arguments, for, from the moment that citizens are allowed to judge their relations to the sovereign, the limits of duties become vague, and each person follows his personal opinions. This, according to Hobbes himself, leads to revolution, which is the very thing he desired to avoid.

And so it is that, by his wonderfully logical system, Hobbes

proved the very opposite truth to the one he wished to demonstrate, i.e. that in questions of morals no absolute, universal, and "objective" rule can be established, and that the highest moral ideas can never be rationalized. Moreover, his ceaseless fear of all spontaneous, irrational, and unforeseen events is certainly exaggerated. In the history of mankind the illegal interference of the people or its representatives has frequently produced results profitable to the Commonwealth.

As for politics, we know to-day that the form of government must vary according to local conditions. In many countries absolute government, which seemed out of date, has returned, censorship, obtrusive pressure in religious and political matters have reappeared, and this return to older forms of government is sometimes hailed with enthusiasm.

Despite all its faults, Hobbes' philosophy has undoubtedly many qualities. It represents the first great effort to place ethics and the science of Commonwealth on a reasonable foundation, without the help of religion. Hobbes' keen powers of observation, as also his sober and fair judgment, lend to many of his sayings an undying actuality. His anthropology especially aroused the admiration of numerous eminent thinkers, and nowadays modern psychology and even sociology owe a great deal to him.¹ In his relativist theory of cognition one can detect the germs of modern pragmatism. Special praise must be given to the style, so remarkably clear and concise, devoid of empty, bombastic phrases. It is not to be wondered at that in a short time his works brought him fame and were speedily bought up. The English edition of *Leviathan*, printed in 1651, was soon out of print, and Hobbes' adversaries, fearing his influence, persuaded the King to prohibit any new edition. Only the Latin version appeared at the end of Hobbes' life, first in Amsterdam in 1668, together with other works, and afterwards in London in 1676.

If the greatness of a man were to be measured by the fierceness of the attacks of his adversaries, then Hobbes would be among the greatest. No philosopher was ever more attacked by his contemporaries. The clergy in particular hated him as a free-thinker, whilst the monarchists considered that in *Leviathan* he had betrayed the cause of the King. In spite of so many reproaches, Hobbes, amongst his friends, had the reputation of being a kind-hearted, serene, and cheerful companion, fond of tennis and other amusements. Thanks to the efforts of his admirers, several fine portraits of him

¹ Hobbes was the first to formulate a law of association of ideas. He made interesting observations on the psycho-physiology of dreams, on the nature of affects, etc. On the influence of Hobbes' thought on the School of Durkheim consult Sorais *op cit* p. 516.

have been painted which give us a vivid impression of his interesting and remarkable personality.¹

The reaction to Hobbes' works cannot be limited to the polemics and criticisms that they aroused on all sides. His remarkably logical thought proved the insufficiency of the methods previously employed, and forced people to revise the bases on which their ethics and philosophy of state were built, thus giving them a powerful stimulus towards the elaboration of new and better systems. This negative influence of Hobbes' teaching, which in England particularly, was very marked, has been emphasized by all his critics.² His ethics therefore produced a reaction in two different currents of thought represented on the one hand by the intellectualist tendencies of Samuel Clarke, Ralph Cudworth, later Price, Reid, etc., on the other hand by the so called sentimentalists such as Shaftesbury, Hutcheson, Butler, Hume, Adam Smith, and others.³

The positive influence of Hobbes is less known, although it was very important. Amongst the thinkers whom he evidently inspired are Spinoza, Puffendorf, Leibniz, Helvetius, Holbach, Rousseau, as also Diderot and the French Encyclopædists. Some add the names of Comte, Berkeley, Nietzsche, and even Bossuet and Kant.

A detailed study of Hobbes' place amongst the great philosophers would pass the limits of this short survey. The extraordinary actuality of the problems he treated, as well as the acuteness of his judgment, compel us to believe that the part he has to play in the history of human thought is not yet ended. More than one chapter in *Leviathan* and *De Cive* sound as if they had been written to-day and for our own times. It seems therefore to be the appropriate moment to draw him out of the obscurity in which he has so long been left. Perhaps that is the reason why, during the last few years, he has begun to awaken new interest everywhere even in his own country where he was most forgotten. The memory of great men never completely dies. Sooner or later their merits come to light and receive the appreciation which great men in their lifetime so rarely enjoy.

¹ Among the best is the portrait by Michael Wright in the National Portrait Gallery, and two others are to be found in the Royal Society in London.

² Cf. Robertson *op cit* pp 214-233 sqq.

³ H. Moskowitz *Das moralische Beurteilungstermögen in der englischen Ethik von Hobbes bis John Stuart Mill* Inaugural Dissertation Erlangen 1906.

THE APPEAL TO COMMON SENSE

H H PRICE M A B Sc

II

THUS we cannot simply dismiss the principles of common sense as invalid or fictitious. What attitude then ought we to adopt towards them? There are two obvious suggestions.

The first of these two views professes to put common sense into an impregnable position. It starts from that *consensus* which we noticed above, and it concludes that since the belief in the principles of common sense is both universal and to all appearances ineradicable, it must be innate or instinctive. These principles and categories, as it is sometimes put, belong to the original constitution of human nature—that is why we cannot get rid of them. And therefore the argument goes on, it is absurd to doubt them, and equally absurd to defend them. It is absurd for instance either to doubt or to defend our belief in the existence of a physical world, or in the existence of other minds than our own. At the age when we begin to reflect we find that we already accept these principles and others like them, and that we interpret our sense-data in terms of the common sense categories. We can no more give them up than we can give up our instincts. Our minds just work in that way, that is all, and we cannot make them work in any other way.

It follows from this that the chief endeavour of philosophy is to discover which among our beliefs are thus primitive or constitutional, and which are acquired. Some philosophers, for instance, have thought it very important to show that our belief in the moral law is part of our original constitution, and some have even spoken of a religious instinct, meaning apparently an instinctive belief in the existence of some divine being or beings. And it is held that when we have found these original beliefs, stated them clearly, and made a list of them, there is nothing more to do. For we cannot (so to speak) get behind them. Thus philosophy, according to this way of thinking, becomes a kind of psychology—the mental science of the Scottish school.

This curious view has more advocates than one might think. Hume is perhaps the most famous. Kant sometimes comes pretty close to it. And Reid is sometimes to be found on the same side, though generally he is what we should now call a realist. Perhaps he did not always see the difference between saying that the beliefs of common sense are part of our original constitution, not *acquired* in the course of experience, and saying that they are ultimate truths.

not *inferred* from anything else. At any rate, we owe to him the best brief statement of the view that we are considering. 'If we are deceived in these beliefs,' he says, 'we are deceived by Him that made us, and there is no remedy.' What is even more surprising, we find Mr. Russell in more than one passage apparently taking the same view. In the first of his *Lowell Lectures* he says that we have certain instinctive beliefs which it is in vain to question. The sole business of philosophy is to 'harmonize' them—and presumably, we must add, to formulate them exactly before it does so. But, of course, it is possible that both he and Reid are using the term belief loosely, when they really mean knowledge, and then they are defending a very different position.

But we must continue our examination. What we really wish to know is whether the principles of common sense are true or not. And instead of answering this question, the view before us simply asserts that they (i.e. the believings) are part of the original constitution of our minds, and that we cannot get rid of them. But this is not really irrelevant, since it implies that we cannot tell whether they are true or false, and that is an answer to our question, and a very disturbing one. The principles of common sense, it would be urged by those who hold this view, are clearly not self-evident, nor are they deducible from other self-evident principles—or, at least, no one can show that they are. Kant's deduction of the categories only succeeds at most in reducing the number of those principles by showing that some are dependent on others. Nor are they reached by induction, indeed, they could not be reached in this way, for some or all of them are already presupposed in every inductive inquiry. Therefore, the argument goes on, we certainly do not *know* that these principles are true. They are assumptions, then, or postulates which are treated by all men *as if* they were true. By making these assumptions we are able, as the phrase is, to organize our experience, to sort out our sense data and our images into sets, and in a measure to anticipate the future. But that is all, and it by no means follows that the assumptions are true.

Indeed, according to the more extreme advocates of the theory, the question does not even arise, for what we have been calling assumptions or postulates are really more properly rules or commands. Every man, according to this way of putting it, instinctively *commands himself* 'to imagine an independent world of physical objects and other minds to which he relates his sense data.' Those commands are what we have called the principles of common sense, but on this view they have no more to do with truth and falsehood than the rules of scansion have, we can indeed inquire whether our description of them is true, but not whether they are true themselves.

'And others? Those who do not obey are sent to lunatic asylums.'

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But it is unfair to lay too much stress on this more exaggerated form of the theory. Let us therefore confine ourselves to the original version which says that our common sense assumptions are *in fact* either true or false but that we have no means of *discovering* whether they are true or false.

We may illustrate the position by taking the most obvious example. When I believe that there exists a body or physical object which I call this chair then according to the theory, I am not knowing the particular chair itself, but only the sense data which I believe to be appearances of it. I am not even knowing the *fact* that these sense data are appearances of some one object. I merely assume that the object exists and I merely assume that the sense-data are appearances of it.

But, we may object, the question whether there really is a chair or not cannot really be avoided. Nor can one help asking whether there really are other minds than one's own. And it is not enough to tell us that every one instinctively assumes the validity of the moral law, and the existence of a divine being or beings. We cannot help asking, Well, but is it valid, and is there really a God?

The most consistent advocates of the theory that we are considering would refuse to consider these questions on the ground that no human being can answer them. For, according to them, we have no access to the independently real, but only to sense-data, and no examination of sense data can tell us whether there is a physical world or a moral law. But without access to the independently real we cannot possibly tell whether our common-sense assumptions are true or false. Moreover, it is always possible that there is no independently real.

Others, however, have attempted to answer the question, and perhaps it is worth while to stop and see why their answer is fallacious. It is more or less as follows. Since our common sense beliefs or assumptions are instinctive, they must have been affected by the course of evolution, perhaps they were acquired by our remote *ancestors* (through *innate* *ideas*) and they must certainly have been modified and developed, even if they existed in some crude form in the first living creature. Now, if they had not been conducive to our survival, they would not now exist in us as part of our mental constitution. But they could not have been conducive to survival unless they were true, since otherwise they would have led to dangers and difficulties at every turn, and both they and their holders would have been eliminated.

This "biological argument for Realism," as a German writer has called it, is the modern version of Descartes' view that God is no deceiver. It seems to me wholly fallacious.

We can meet it first on its own ground, for it is by no means

clear that a true belief would necessarily be more conducive to survival than a false one. It is only necessary, for survival, that our beliefs had a certain constant relation to the facts—that the error in them should be a 'systematic' error. Thus, if the independent real were in fact (as Berkeley thought) a series of volitions in the mind of God, and we had the beliefs which we have now, we should be able to survive as well as we do now. There are even cases where a false belief is more conducive to survival than a true one. When the independent real is very complicated, as matter is alleged to be by modern physics, it is desirable in the interests of survival that we should believe it to be simpler than it is, for simple beliefs are easier to act upon. Again, a too subtle appreciation of other people's mental states would be a very serious obstacle to survival in a savage age. If the savage had too nice a consciousness of his enemy's point of view, he might not hit hard enough, or he might hesitate at the critical moment. It would never do for him to have scruples or misgivings on that score.

But the fundamental objection is one that we have noticed before. The whole argument is really circular, for it begins by assuming the truth of those very common sense beliefs which it professes to establish. Unless the physical world really does exist—not merely is believed to exist, but really does—there cannot be evolution nor struggle for existence. And unless our ancestors really existed and really had minds—not merely are believed by us to have had them—it is simple nonsense to talk about their *beliefs* at all. We can only begin discussing the beliefs of primitive mankind when we have already established the existence of an objective physical world, and of an objective past, independent of *our* beliefs about it.

Thus we return to the other position, that we cannot tell whether the fundamental principles of common sense are true or false, that our minds just work in that way and there is no more to be said. According to this positivism, or agnosticism, we cannot know the independently real, we can only put together our sense-data (which alone are given) *as if* the principles of common sense were valid, and with that we must rest content. And so the theory which began by exalting common sense as part of our constitution turns round into a scepticism which is as much opposed to the plain man's ordinary view of the world as any theory could well be.

Still, sceptical or not, it certainly appears to be a very formidable theory, and has been pretty widely accepted. But we have now to point out that it is exposed to several fatal objections.

In the first place, it assumes that only sensation gives us access to the independently real, and sensation (according to the strict form of the theory) *tells us nothing*. It is nonsense, for instance, to say that the existence of sense-data proves the existence of a world

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of things in themselves by which they are caused, for we have first to show that the category of cause and effect is valid, and, as Hume demonstrated, no examination of sense-data will show that. It is therefore maintained that we have *no* means of showing that the principles of common sense are valid, they are neither sensibly given, nor self-evident, therefore (according to the theory) they can only be mere assumptions. But, we must reply, the alternatives are not exhaustive. There may be other kinds of immediate apprehensions besides sensation. We may immediately apprehend not merely sense-data, but physical objects, not merely images, but past events, the function of the sense-data may be merely to direct our attention to those physical objects. Or we may be immediately aware not of this physical object itself, but of the *fact* that these sense-data are appearances of some one physical object, and of the *fact* that these images are present appearances of a past event. These alternatives should at least be discussed before we dismiss the principles of common sense as mere assumptions. It may, however, be said that we should not have suggested these possibilities unless we were *already* convinced of the validity of common sense, and determined to defend it against the 'as if' theory. We shall therefore say no more about them for the present.

But the theory may be directly attacked as follows. The presupposition of it is, that there are human minds and that there are beliefs. Now if the theory were true we could not possibly know this, for the principle that there exist other minds besides my own is itself one of the principles whose validity is in doubt. All that I can say, according to the theory, is that "I believe that there are other minds and that they entertain beliefs, but I cannot possibly tell whether there *are* other minds or not." At any rate my belief in other minds is every bit as doubtful as my belief in the physical world, or in an objective moral law. Whether the philosophers of 'as if' will be content to accept this problematic solipsism, we leave them to determine. But if they stir a step beyond it they are bound, in consistency, to surrender their whole position. For if I can have knowledge about other minds, whether intuitively or by inference, if I can even know the *fact* that other minds exist, here is a kind of knowledge whose object is neither a sense-datum nor a self-evident general truth like the truth of mathematics, nor something deduced from such truths, and if I can know other minds by this kind of knowledge, no reason appears why I should not also know the physical world, God, and the moral law.

A similar objection applies in the case of memory. The principle "that these things did really happen which I distinctly remember" (to take Reid's statement of it) is one of those whose validity is doubtful, according to the theory. According to it, we can only *know*

the present image, and our belief that it is the 'appearance of' a real past event, to which it directs our attention, is said to be a mere belief or assumption. But surely it is obvious that if so it is impossible to think or argue. In any complicated argument we cannot apprehend all the steps at once. Suppose there are four steps, A, B, C, D. When we reach D, we may directly apprehend that C necessitates it. Thus if C is true, D is true. But how can we know that C is true? The obvious answer is 'We remember that we proved it to be true just now,' and that is ordinarily taken to mean, 'We directly know the fact that we did prove it.' But according to the theory before us, we cannot really mean that. All that we know is the present image or word, our belief in the past fact is mere assumption, and we cannot possibly tell whether there ever was such a fact or not. In other words, we cannot possibly tell whether we really *did* prove C, and if we did not, we cannot tell whether C is true, and D (our conclusion) does not follow. Nor is there any remedy for this unfortunate state of things. It is no good, for instance, to go back and run through the argument again from the beginning. For the same difficulty will arise as before—we shall have to rely upon memory, and if memory is mere belief or assumption, we still can draw no conclusion from our premises.

Thus the theory before us would overthrow all argument except perhaps the simplest immediate inferences, and as it itself professes to be reached by argument, it overthrows itself. And if to save itself it allows that memory is not mere belief or assumption, but *knowledge*, the former objection applies again. The object of memory is not a sense-datum nor a self-evident truth, nor a proposition deduced from such a truth. And if there is this kind of knowledge, *all* the principles of common sense may equally claim to be known by it, and then they are not mere assumptions, but are objectively valid.¹

Lastly, it is just possible that the defenders of the theory which we are criticizing may change their ground and say "The mind which we are talking about, when we say that the principles and categories of common sense are part of the constitution of the mind, is not that of any historical individual, but it is Mind with a capital M, or 'the mind of the universe'." To this we may answer, first, that it is a flagrant misuse of the word 'mind', and secondly (leaving that *aside*), that it grants the point we are contending for. For if this Mind has all reality for its content (and that is the sort of thing that is meant), the principles and categories which belong to its constitution are constitutions of reality also, in other words, they are objectively valid.

¹ A further point. The theory says that only sense-data and images are knowable. But it itself can hardly be a mere set of sense-data and images. Or if it is, it is mere noise and ink marks, and cannot be true or false.

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Our original question was, What authority belongs to common sense? We have now discussed two important ways of answering it. Both agreed that common sense has no authority, and that the appeal to it is not legitimate, but for different reasons. According to the first view, because the principles of common sense are definitely false, according to the second, because we cannot tell whether they are true or not—and we have seen that both these views must be rejected. We have now to consider the third type of answer.

According to it, common sense and ordinary language are always right—not that every assertion which any plain man makes is true—that would be too absurd. What *are* always true are the philosophical presuppositions of the plain man's assertions—what we have called the *principles* of common sense. Thus ordinary language may always be appealed to in philosophy, though not in science or history. And the reason is, that the ordinary man is an unbiassed witness, he simply looks at the facts without prepossessions and states what he sees, whereas people with a philosophical training are always prejudiced in one way or another. Ordinary language, then, embodies what we may call a fair first-hand account of the real. Philosophers cannot regain for themselves their lost innocence and natural piety (as in Professor Alexander's terms). If they want to know the facts they must go to the plain man and to ordinary language, simply because there is nowhere else to go. Everybody else, ourselves included, wants to prove or disprove something, and therefore cannot be trusted to give a fair account of the facts.

This theory is certainly a very curious one. Ordinary language surely cannot quite be the inspired oracle that it supposes, for we all know that different languages differ very widely in structure, and it seems to follow that they cannot all give an accurate representation of the structure of things. Thus Chinese, for example, is said to have no substantives and European languages have no timeless tense. Thus the evidence of language must always be accepted with caution.

Again, ordinary language and ordinary thought do not formulate their principles. The principles of common sense have to be extracted by philosophical inquiry. We have already seen what dangers this introduces. Between a fact and its formulation there is many a slip.

Thirdly, the plain man is *not* an unprejudiced witness. We have seen already that he is a specialist in making a living (as Professor Stout, I think, has said), and he has all the specialist's bias. He has no desire to understand the nature of things for their own sake, but only for what he can get out of them, so he does not mind if his statements, or what they imply, are sometimes inconsistent with one another, and on some points of philosophical importance it is

almost impossible to discover (as we say) "what he really *does* think." The conceptions of 'one thing' and of 'illusion' were the examples we gave before. But there are plenty of others. It comes to this then. The plain man is often sadly muddled in his opinions, he does not trouble to think clearly when there is no practical need to do so, and so his language is not clear either.

For these reasons we cannot accept this extreme 'verbal inspiration' theory of ordinary language, and indeed if it was true as it stands there would be no need for philosophy at all, or, what comes to the same thing, everyone would be a philosopher, and there would be no more to be done. We cannot estimate the authority of common sense so highly as that—it is not infallible and all sufficient. On the other hand, the theories which deny that common sense has *any* authority, and altogether disallow the appeal to it, seem clearly fallacious. The principles of common sense are certainly no mere fictions or arbitrary assumptions. On the contrary, as we have seen, their truth is presupposed even in the theories of those who profess to dispute it. Thus it is clear that common sense possesses very great authority, even though the appeal to it is not final.

In this connection we must notice another point, upon which Professor G. E. Moore has laid great stress and which we have hitherto passed over. Apart from all philosophical theories, it does seem perfectly certain that everyday statements like 'There is a letter on the table,' 'The cat has drunk the milk,' 'You ought to go out,' 'I remember being here before'—are on many occasions in *some* sense true, that is, they certainly do often express facts. They may express their facts badly, but if so, it *must* be possible to give *some* 'good meaning' to them. And if any theory were proposed which implied that such statements were false, we should all say that the theory must be wrong somewhere. At any rate (I am still following Professor Moore) we should all think it much more probable that the theory was wrong somewhere, than that the statements were false. These are what we call 'plain facts,' which every theory must make room for. We may illustrate the point by an epigram of Mr. Russell's. Physics, he says, is far more likely to be true than philosophy is—meaning by philosophy the theory of this or that philosopher—and what he says of physics applies *a fortiori* to the ordinary propositions of everyday life. For it is on such propositions that physics and all experimental science is, in the end, based. If it is not sometimes true that this thing is moving and that thing is not, all science (except mathematics) collapses. Thus the only real question about these statements of ordinary everyday life and observation is not are they true, for everyone must admit that they are, but what exactly do they mean, and what principles or categories do they presuppose.

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It is difficult to make this point any clearer, but perhaps we may add an indirect argument. If the statements of ordinary life (such as, 'There is a letter on the table and so on') were not in some sense true, there would be *no problems* for philosophy to discuss and philosophy would never have existed for all problems arise out of previous knowledge. If we ask 'What does this statement mean?' we must already know that it means *something*, we must also know the *sort* of thing it means—otherwise we should not feel puzzled about it. A mere falsehood or fiction, or a string of nonsense, raises no problem. There may indeed be a problem as to who uttered it and what made him do it but that just proves our point, for obviously we should not ask such a question unless we already knew that the falsehood or the nonsense had been uttered by *someone*. Now philosophy certainly exists and has problems and it certainly takes many of them from ordinary language. Therefore ordinary language must sometimes express knowledge—its statements must sometimes be true.

On the other hand neither would there be any problem for philosophy if ordinary language were perfectly clear. But it is obvious that ordinary language is not clear by any means, nor do we need any examination of language to teach us that the mental acts expressed in our ordinary statements are by no means clear either. Direct introspection tells us that they are very confused indeed.

Thus we seem forced to admit (what, perhaps, nobody would deny) that there is such a thing as *confused apprehension*, we might call it confused knowledge, only that some, perhaps, would hold that knowledge, to be knowledge, must be clear. At any rate, whatever name be proper for it, the thing certainly exists. We shall call it confused apprehension, and we must now try to give a brief account of it.

Confused apprehension differs from ignorance, from mere belief, and from clear apprehension or knowledge proper. (i) In ignorance the mind stands in no kind of cognitive relation to the object (we use the term 'object' here in the very widest sense). (ii) In mere belief it does stand in a relation to the object, but the relation is indirect. What the mind directly apprehends is a certain universal or set of universals, and by an act which cannot be further analysed, but which certainly is not an act of *knowing* at all, it 'attributes' these universals as characteristics to some real thing or things already known to exist. If these universals really do characterize the thing, the belief is true; if not, false. But the whole essence of belief, of course, is that we do not know whether it is true or false. Thus the relation between the belief and its object may, if we like, be called correspondence. Now what we are calling confused apprehension differs from this

for in it we are in a *direct* cognitive relation to our object, as we are in knowledge proper. We need nothing further to assure us of the *existence* of our object, we are as sure of it¹ as we can be, for we directly 'grasp' the object.

Why, then, is the apprehension confused, if it is directly related to its object? The answer is, because the object is complex. It has parts, and these parts stand in complicated relations with one another. The relations may be spatial or temporal, or of various other kinds. Let us call this whole system of relations the 'structure' of the object, and let us remark again that we are using the word object in its very widest sense, for whatever can 'stand before' the apprehending mind.

The possibility of confused apprehension may now be explained. It may happen in two ways. Either we may apprehend (that is, know) the general structure of the object, and the fact *that* it has some part or other, but not those parts themselves. Or, on the other hand, we may apprehend (that is, know) the parts, and the fact that they belong to some structure or other, but not the structure itself.

Nor is the case of a whole and its parts the only one in which confused apprehension is possible. It also arises when the object of our apprehension is a group or a system containing *members*. Possibly it may also arise in the case of a substance and its *qualities*. For though we cannot apprehend a substance without qualities, nor qualities without a substance, yet we might apprehend a number of qualities and know that each of them belonged to some substance or other, and yet not know that they all belonged to the same one.

So far confused apprehension is a special case of what is vaguely called partial ignorance. That is the first degree of it. But there is also a second, in which we pass from ignorance to false belief. Thus, in the case of the whole and its parts, we may know only the structure of the whole and the fact that it has some parts or other, and we may have a false belief as to the nature of the parts. If our whole, for example, is a teacup, we may know the shape, and then not noticing the colour, we may afterwards falsely believe that it is blue with a white handle, whereas, in fact, it is green all over. And so in the other cases. Of course, we may also pass from ignorance to true belief, and then our attitude of mind, so far as its verbal expression goes, may seem to be clear knowledge. But, in fact, it is still confused. For though we do stand in a direct cognitive relation to some parts of the nature of our object, we are only in an indirect relation to others, and the relation is none the less indirect because our belief happens to be true.

It will scarcely be denied that examples of confused apprehension,

¹ Or if you will, we are more than sure, because we are in a state where the distinction between sure and unsure does not arise at all.

in these senses of the phrase are common enough. Thus I may know the names of all the Plantagenet kings of England and even something of their careers—for example that Edward I fought against the Scots or that Edward III had a very long reign—and yet I may not know what order they came in. Or (the second degree of confusion) I may have a false belief about that order. I may think for instance that John came before Richard I. In such a case it would obviously be false to say that I was completely ignorant of the history of England during the Plantagenet period or to say that I had *only* beliefs about it and *knew* nothing. The proper expression clearly is that I do know certain facts which fall within the period but that I have only a confused apprehension of the period as a whole.

Again I may know how the main streets of a certain town are related to each other yet I may have completely forgotten (or may never have known) what kind of buildings there were in those streets and whether the surface was tar or wood blocks or cobbles. I remember that there were houses of some kind and some kind of surface but I do not remember what. Of course I do not apprehend the spatial relation of the streets confusedly but clearly I *know* that. But I do have a confused apprehension of the town as a whole.

Again I may remember perfectly well the general look of a thing—say of the landscape seen from Brill Hill—without being able to recall any of the details. That I do remember it is shown by the fact that I recognize it on going there again or when I come across a picture of it. But my memory of it is confused. There are hundreds of cases of this kind—when we apprehend the outline of a thing without noticing its colour (though we observe that it has *some* colour) or the colour without the outline or the general plan of the outline without the details of it or the details without the general plan. And if we still doubt we have only to *attend* to any complicated thing or fact and then at once we find ourselves passing from confused apprehension to clearer and clearer apprehension.

Thus there is no doubt that confused apprehension exists and that it differs from ignorance from mere belief (true or false) and from knowledge proper. And it seems pretty clear that a good deal of what we call our knowledge is really confused apprehension with a greater or smaller degree of confusedness. And some of it is mixed with belief true or false in the way that we have just described.

If we have established so much we may close this long digression and at last attempt a reasonable answer to our original question.

What authority belongs to common sense?

It seems pretty clear that the plain man's mental attitude that attitude which finds expression in ordinary language is generally one of confused apprehension. We saw before that it is not an attitude of ignorance or of mere belief or of fanciful construction (as various

philosophers have held) We saw that the plain man's statements and the principle of common sense which are presupposed in them cannot be rejected as false, nor can we say that we do not know whether they are false or true We are *bound* to admit that there is 'something in them' But, on the other hand, we cannot always accept them as they stand, for they are sometimes inconsistent with each other, besides, we cannot always tell what the statements of them mean All these facts are accounted for if we suppose that the plain man is apprehending that which really is but apprehending it confusedly, and it is difficult to see how else we could account for them, for we know that there is truth in his statements, and he knows it Therefore they cannot express mere beliefs¹ And we know that as they stand they are obscure and sometimes inconsistent Therefore they cannot express knowledge Only confused apprehension is left

It seems, then, that the plain man's statements and the expressions of ordinary language have the same sort of authority in philosophy as the evidence of a muddled and ignorant but fairly honest witness in a law court It settles nothing but it does set a question, and the question is one which has to be answered if the case is to be fairly tried The one thing we cannot do with such testimony is to ignore it As we say, it has to come in somewhere

Thus the *particular* statements of the plain man have authority, first, as setting problems which philosophy is bound to solve, secondly, as excluding certain philosophical doctrines which would imply that those statements are not only confused but false But, of course if what we have been calling the *principles* of common sense could be certainly discovered and clearly formulated, they would possess a much greater authority than any *particular* common sense statement These principles, if only we could formulate them, would possess so far as they went, an absolute authority If we could deduce them from some higher principle, or exhibit them as members of a systematic whole, so much the better But even if we could not do this, we should have no right to doubt them For (in Kant's language) they make our experience possible, that is, they are presupposed in those particular statements of everyday life which are known to be in some sense true, and which form the starting point of all philosophy

¹ I do not mean that beliefs cannot be true but only that the believer of them cannot *know* that they are true

RELIGION WITHOUT GOD

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(1) THE poet's words "A man's reach should exceed his grasp" are not merely a command of what ought to be they are a description of what is. (a) Man has always been stretching himself beyond his own measure. He has a sense of the Infinite. Eternity has been set in his heart. he has not been content to look only on the things seen, his gaze has ever been towards the Unseen. Whatever stage of development he may have reached, he seeks for, and strives after, what is above and beyond himself and his world. In science he tries to get behind the *phenomenal* reality as his senses apprehend it, to the *noumenal* or the explanation of reality which will satisfy his mind. In philosophy he endeavours to bring the multiplicity of his experience, outer and inner into a unity that will evidence itself to his reason as coherent, and not contradictory. In morality he is not content with the customs and standards of the society of which he is a member, but conscious of their inadequacy, he conceives and aspires to realize an ideal adequate to his nature, his *ought to be* is always challenging his *is*. The impulse or motive (the *elan vital*) of progress in all spheres of human interest and activity is "the best is yet to be."

(b) But it is in his religion most of all that man's reach is beyond his grasp. It is now generally acknowledged that religion is universal in mankind, that there is no tribe, nation, or race, which has not some forms of religious belief and rite, although it has not always been easy for the civilized observer to recognize the religious character of some phenomena of savage life. It may further be contended that, as religion is universal in mankind, so it is necessary to manhood, for instances can be given of the way in which men have tried to discover or to invent some kind of a substitute for the inherited religion which they had abandoned. Individuals there may be who boast that they have no religion, and who may appear to be doing without it, but closer scrutiny will show that they do have some sort of regulative conception, some sort of determinative attitude to the world around them, which for them takes the place religion otherwise would fill.

(2) Many have been the definitions of religion, and varied the theories of its origin. I shall content myself with indicating very briefly three tendencies of thought in this matter, which may be described by the terms rational, practical, and mystical. The first regards religion in respect of its beliefs as an attempt to explain the

world. It is represented by the theory of *animism* which bases religion on a belief in ghosts and spirits which control the processes of nature for man's weal or woe. The second looks to the end which religion serves: it seeks to give a reason for man's offering prayers and sacrifices to the spirits or gods in whom he believes: any theoretical reason man may have for his belief being thus reinforced by the practical advantage of the belief. Man according to this view is religious because by alliance with and assistance of the spirits or gods he desires and expects to secure his own good: however he may conceive that good. If religion were this or that and no more it is evident that it would be likely to be superseded as man came to know and understand his world and as he gained fuller control of its forces by knowledge of its laws. Science on the one hand and industry on the other would tend to become the Jacob or supplanter of religion. Neither of these aspects of religion, the theoretical or the practical is its essential feature: even although religion does offer an explanation of the world and does help man in his needs. The core of religion is the contact of the human soul with the Divine Spirit: even when crudely conceived as spirits or gods and worshipped in prayer and sacrifice to seek man's earthly good. To this contact mystics in all ages and religions have borne witness: even in the lowest phases of religion there is a sense of divine possession and means are used to secure it.

(3) This core of religion has been in recent years investigated and expounded in a book which made a great sensation on its appearance in Germany: namely R. Otto's *Das Heilige* which has been translated by J. W. Harvey into English under the title *The Idea of the Holy* (Humphrey Milford 1923). What man thus apprehends as real in his religion is the *numinous* (from Latin *numen*) which Otto regards as the best equivalent of the original meaning of the word *holy* which has acquired a distinctly ethical reference not native to it. In justifying his use of the term Otto states: "By means of a special term we shall the better be able first to keep the meaning clearly apart and distinct and second to apprehend and classify connectedly whatever subordinate forms or stages of development it may show. For this purpose I adopt a word coined from the Latin *numen*. *Omen* has given us *ominous* and there is no reason why from *numen* we should not similarly form a word *numinous*. I shall speak then of a unique *numinous* category of value and of a definitely *numinous* state of mind which is always found wherever the category is applied. This mental state is perfectly *sui generis* and irreducible to any other and therefore like every absolutely primary and elementary datum while it admits of being discussed it cannot be strictly defined. There is only one way to help another to an understanding of it. He must be guided and led on by con-

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sideration and discussion of the matter through the ways of his own mind, until he reach the point at which 'the numinous' in him perforce begins to stir, to start into life and into consciousness. We can co-operate in this process by bringing before his notice all that can be found in other regions of the mind, already known and familiar, to resemble, or again to afford some special contrast to the particular experience we wish to elucidate. In other words, our X cannot, strictly speaking, be taught; it can only be evoked, awakened in the mind as everything that comes 'of the spirit' must be awakened."

(p. 7) 'When the numinous is thus felt as objective and outside the self' (p. 11) what is evoked is the 'creature feeling,' a specific form of the 'feeling of dependence' which Schleiermacher regarded as the distinctive mark of religion. The numinous is the *mysterium*, because it is so 'wholly other' for our feeling. At the beginning of his analysis of the *mysterium* Otto quotes Tersteegen: "A God comprehended is no God." The terms transcendent and supernatural are a conceptual expression of this feeling. This *mysterium* is *tremendum*, and this term describes three elements, awfulness, overpoweringness, and energy or urgency. In contrast to this repellent element in the attractive, the *mysterium* is also *fascinum*, embracing "Love, Mercy, Pity, Comfort." The numinous to begin with is non-rational and non-moral, but becomes, as religion develops, rationalized and moralized, in other words, religion is not left apart, but is brought into relation with the other elements in the life of man. Otto recognizes this need of rationalization and moralization, and injustice is done to him when his name is invoked in support of a non-rational and non-moral representation of religion.

(4) To return to the course of the argument from this digression which is relevant to it, it is probable that without this mystical element, the contact of man with God in religion, neither the rational aspect, nor the practical would have come to be. It was because man was conscious of the divine, and his conception or intuition of it developed as indicated by Otto, that he explained his world, or met his own needs as he did in his religion. (a) Otto refers to Schleiermacher, and criticizes his description of religion as 'a feeling of dependence' as too general, but he does recognize that Schleiermacher has the root of the matter in him. Hegel's view of religion as a kind of knowledge, inferior to that of philosophy, or Kant's as a sanction of morality, an apprehension of moral duties as divine commands, has the inadequacy of the rational and the practical view of religion.

(b) Attention may be directed to Bergson's insistence on intuition as a more adequate apprehension of reality than is conceptual knowledge as having some affinity with Otto's view of the apprehension of the numinous. With Eucken too there seems a point of contact. Man must subjectively realize the spiritual life in himself before he

can apprehend, come into contact with, the spiritual reality, objective in the Universe. What for the purpose of this essay needs to be emphasized is that religion is not the conclusion of an argument, the premises of which are in something other than itself; man does not believe in and worship God to satisfy his intellectual curiosity, or to gratify his practical necessity, to make his world more intelligible or his life more tolerable but he has an apprehension of the divine, or rather he has been apprehended by the divine. Paul, the Christian mystic expresses the truth and the worth of all religion when he states as his aim 'that I may apprehend, seeing that also I was apprehended' (Philippians iii 12, R V marg). Putting the matter in other ways men have had, and still have *experience* of God, He becomes as real to them as self and world, and even in their highest moods He is more real than self and world, or men *perceive* God by an inner as they perceive the world by an outer, vision, but, just as sense perception is on analysis shown to be a mediated process, although there is no consciousness of the process, but only of the immediate contact with reality, so the perception of God may be analysed but the mediation which may be discovered does not destroy the immediacy of the contact, or discredit the reality so perceived.

(5) I am fully aware that those who do not share this experience, and have never had such a perception, may dismiss religion as a superseded superstition. May I offer three considerations in arrest of such a judgment? (a) This religious experience, this spiritual perception, has not been an individual peculiarity, there is a "great cloud of witnesses," who have "endured, as seeing Him who is invisible. Among those witnesses are scholars, thinkers, saints men of affairs whose intelligence is keen, character noble, service abundant. Is all this testimony to be brushed aside as irrelevant?

(b) Are those who suffer from the privation of what is a general human endowment in a position to challenge the testimony of those whose greatest good in life is just the possession of this capacity for God? Shall a blind man deny that the painter has realized his ideal of beauty in colour and form or the deaf man that the soul of the musician has been revealed in sound? I have purposely used these illustrations as I am convinced that religion is as natural to man spiritually as light and hearing physically. A natural capacity may atrophy through disuse. Concentration on certain pursuits may involve a limitation of ability to take up and carry on others. The man of science may sacrifice his æsthetic sensibilities, his apprehension of art or literature. If a man who feels no need of religion and has no use for it challenges the truth and worth of religion, I cannot be angry with him, for he may not be to blame, his environment, education, or occupation may be responsible for this depriva-

tion, but I am sorry for him, as missing what for me gives world and life its supreme value

(c) In a previous number of this *Journal* I dealt with the distinction, which, as an exponent of the Ritschlian theology, I was one of the first to naturalize in this country, namely, that between apprehension of fact and appreciation of value. This distinction must be here recalled. It has just been said that there is in religion an apprehension of God as real and so there is and I do not withdraw the claim that religion apprehends fact. Here must be added the consideration however, that the apprehension of the fact is conditioned by the appreciation of values. This is more evident here than in other instances of knowledge, but it is not wholly absent from the others. Dr. Ward has emphasized the truth that in the pursuit of knowledge we are guided by a *selective interest*. The artist sees in the river something else than the angler. We must have an interest in all those things which are included in or associated with religion, if we are to give that attention to the reality with which religion is concerned which will give us experience of it. There have been religious conversions, in which God seems to fall upon man, to use a religious metaphor, to compel his attention, but as a rule men apprehend the fact of God only as they appreciate the values which are peculiar or closely related to religion.

(6) The tone towards religion to-day is very much more respectful than it used to be. The need of religion is not denied, but some other object is sought for it, offered to it, than God. The history of religion in the past and in the present is regarded as so discreditable, so associated with superstition, irrationality, reaction, and obscurantism that a self-respecting scientist or moralist feels himself not only justified, but even compelled to seek satisfaction for such needs as he may feel elsewhere. For such an attitude there has been some provocation, if not justification. I am not concerned to defend much in theology or piety which offends, truly and rightly, the scientist or the moralist. This *Journal* is not the place for Christian Apologetics. Having shown what the core of religion is, I shall attempt to show that the substitutes for God which have at different times been proposed fail to satisfy man's need.

(a) It has sometimes been maintained that Buddhism cannot be regarded as a religion, as in its earlier form (the *Hinayana*) it had no need of, and made no use of the gods of Hinduism, but substituted for the divine as cosmic principle, the law of *Karma*, the determination of the conditions of each successive life by the character of the preceding one, and as the deliverance from the chain of existence which it offered was not dependence on divine aid, but a discipline of self-renunciation. Whether, as it does recognize some cosmic principle, it should be called a religion or not is a question not worth

discussing What is significant for the present purpose is this, that this earlier phase of Buddhism was in most Buddhist regions superseded by the later phase (the *Mahayana*), because the 'little vehicle' could carry only a few monks to Nirvana, and for the multitude who desired release and bliss the 'large vehicle' was necessary. In this a succession of Buddhas is deified as Saviours, an interesting witness of what man craves for in his religion.

(b) How different is the second illustration in outward features, yet it conveys the same lesson. Auguste Comte, after formulating his *Positive Philosophy* as superseding the theological and the metaphysical phase of human thought, in which he limited knowledge to phenomena, their resemblances, sequences, and co-existences, constructed his *Positive Polity*, or ideal commonwealth, or order of society. But to secure an adequate inspiration for this social reconstruction, he must needs invent his Religion of Humanity, in which he did not deify the whole race, but a selection of its benefactors, gratitude to whom should take the place of the worship of God. Most of those who accepted the philosophy rejected the polity, and the Religion of Humanity remains a fond fancy of a coterie, it has not captured the allegiance, because it does not meet the needs of mankind.

(c) One who has recently been travelling in China, India, and Russia supplied me with what seem also relevant illustrations. The *intelligenza* of China, India, and Russia have abandoned religion as a worship of gods or God. It has become secularized by its culture and civilization, but nevertheless in each country there is an object of devotion in its intensity often approaching worship. Sun-yat-Sen in China, Ghandi in India, and Lenin in Russia are being exalted as the inspiration of the national movement. In Japan Shintoism survives amid modern science and industry, as a deification of the imperial line, and patriotism is a religion. One may conjecture that amid the break up of the old cults in Rome, the deification of the Emperor similarly met the human need of some personal object of worship and devotion. It is, however, the ascription of personality in any form at which modern naturalism or humanism takes offence, and for which it seeks to find some adequate substitute.

(7) Let us glance at the latest of these proffered substitutes and ask if they will really serve. The religious traditions of the past with belief in a personal God are set aside as outworn, it is physical science and humanitarian interest and effort which are to be the bases of religion. Two illustrations will suffice. (a) According to Professor Alexander, "The infinite God is purely ideal or conceptual. As actual God does not possess the quality of deity, but is the universe as tending to that quality. This *nisus* in the universe, though not present to sense, is yet present to reflexion upon experience.

RELIGION WITHOUT GOD

Only in this sense of straining towards deity can there be an infinite actual God "God as an actual existent is always becoming deity but never attains it He is the ideal God in embryo The ideal when fulfilled ceases to be God, and yet it gives shape and character to our conception of the actual God and always tends to usurp its place in our fancy " The *élan vital*, the creative Evolution, the emergent is God Whether this be or be not a legitimate metaphysical conclusion I do not now inquire it certainly has no correspondence with the religious consciousness in its historical development

(b) Julian Huxley does not base his criticism on metaphysics, which he eschews He seeks a solution of the problem of reality in a religion which will meet the needs, moral and social of the modern man Ideals and values are for him emerging in the Evolution of the Universe and it is man's duty and privilege to co-operate with that cosmic trend It is within the mind of man—in these ideals and values—that the Universe at last becomes God ² It is nature as evolving into and consummated in man which is offered as the object (can we say of worship?) at least of devotion and service

(c) What may be said of both these theories is this What is offered us here as the interpretation of the process of evolution, its idealization and deification, is not strictly science, it is not the inevitable conclusion to which an explanation in the terms of science would lead It cannot, therefore, be offered to us in the name, or with the authority of science, it is a speculative philosophy The data of science, as T. H. Huxley interpreted them, led him to paint a sharp contrast between the cosmic process and the moral progress of man And the theist finds a challenge to, and not a confirmation of, his belief in God in much that the evolution of the Universe discloses One must feel that the idealism and optimism of the substitute offered for Christianity is a survival in those who now reject it of ideas and ideals historically bound up in the Christian faith

(8) There are two related considerations which I venture to advance (a) Bergson's idea of *creative*, or Professor Lloyd Morgan's of *emergent* evolution, seem to me to be useful descriptions of the phenomenal, and are valuable as disproving the Spencerian philosophy, which attempted to resolve all phenomena, psychic and vital,

¹ *Space Time and Deity*, vol II pp 361 and 365 Mr Edmond Holmes has in the *Hibbert Journal* vol XLVIII pp 48-68 subjected this metaphysics which out of Space Time as *matrix* or *stuff* derives matter life mind God, to a searching criticism

² Christopher Dawson in his *Progress and Religion* p 240 quotes two lines from one of Huxley's earlier sonnets which briefly states his creed —

'The Universe can live and work and plan
At last made God within the mind of Man

into matter-in-motion. Something new does appear at each successive stage of evolution, which could not be anticipated from, and could not be explained by what appeared at the previous stage. When this is offered as an ultimate interpretation of reality, then my mind rebels against it. *Ex nihilo nihil fit*. For my thinking, what is immanently evolved must be transcendently involved, cosmic evolution I can make intelligible to myself only as divine creation. What emerges phenomenally must exist noumenally. An 'evolving God' is an absurdity for my reason, as it is an offence for my religious sensibility. The 'creature feeling' of which Otto speaks, as man's response to the numinous reality, can in my judgment be justified by rational thought. Man always in his religion has reached above and beyond his world and self, and has contrasted in his thought his own limitations with the Infinite and Absolute. The Universe is for me much more rationally interpreted as having its source in a transcendent Creator than as the evolution of an immanent God. Professor Alexander and Professor Huxley are taking illegitimate liberties with the word *God*, to which religion does attach a definite meaning, in using it as they do for the emerging ideals or values, which have their highest expression in man. These ideals have their categorical authority for man because he believes that they are eternally real in God, and his appreciation of these values is not for him their full measure. My moral conscience, my religious consciousness, as well as my intelligence, cannot accept these last substitutes for the God of religion as the idea has developed in history.

(b) But since these thinkers do find the consummation of the cosmic evolution in man—in his ideals and values—the objection to ascribing personality to God seems to be greatly weakened, if not altogether removed. We cannot be altogether astray when we think of God as at least personal, as disclosing if not the whole secret of His nature, yet a part of the mystery which is not misleading for our thought in what evolution has finally created, or what is the highest which has emerged (to adopt the current language). This certainly is better than Spencer's procedure, who after refusing to describe as personal the ultimate reality, the existence of which he recognized, although he insisted that it could not be known, on the ground that there might be something much higher, went on to explain the Universe by a category much lower than the personal. If Professor Alexander and Professor Huxley are pleased to call the cosmic evolution as consummated in man God, religion may be excused for describing the transcendent God as personal, as possessing the highest ideals and values which the life of man discloses, but absolutely perfectly, eternally, and not partially and imperfectly as man, even at his best, possesses them. If this ascription of personality to God is condemned as anthropomorphism, we may remind

ourselves that the categories, formulæ, and hypotheses by which science interprets the world are no less products of the mind of man "We have," says Professor Eddington, "to build the spiritual world out of symbols taken from our own personality, as we build the scientific world out of the symbols of the mathematician I think, therefore we are not wrong in embodying the significance of the spiritual world to ourselves in the feeling of a personal relationship, for our whole approach to it is bound up with those aspects of consciousness in which personality is centred" ¹ Eucken distinguishes between universal and characteristic religion, the recognition of spiritual reality in philosophy, art morals etc., and the realization of that spiritual reality in personal experience, and here he acknowledges that it must be conceived as personal Religion must speak to a God who hears, and the human spirit must meet the Divine Spirit in immediate contact and intimate communion Religion needs God the Holy, and cannot accept instead of Him man's ideals and values as the consummation of the cosmic evolution

(9) After the preceding pages had been written, there came into my hand Mr J Middleton Murry's book, *God, Being an Introduction to the Science of Metabiology* No attempt to review the book as a whole is being made here, but only what concerns the subject of this essay will be brought under consideration The author attracted considerable attention, and secured an appreciation for his work which in my judgment far exceeded its intrinsic merits by *The Life of Jesus* (a) In the interesting but painful autobiography, which forms about a third of this new work, he gives an account of a mystical experience through which he passed, in which he was all at once borne out of distress of mind into peace, in which he found himself reconciled to the Universe "A moment came," he writes, "when the darkness of that ocean changed to light, the cold to warmth, when it swept in one great wave over the shores and frontiers of myself, when it bathed me and I was renewed, when the room was filled with a presence, and I knew I was not alone—that I never could be alone any more, that the Universe beyond held no menace, for I was part of it, that in some way for which I had sought in vain so many years, I *belonged*, and because I belonged I was no longer I, but something different, which could never be afraid in the old ways or cowardly with the old cowardice" ² One is reminded of the passage of the hero of Carlyle's *Sartor Resartus* from the Everlasting No to the Everlasting Yea The discovery was not, however, of God, for although the author expresses a profound admiration of Jesus, and considers his own attitude to life as akin to His yet he regards Jesus as Man only, although the New Man, of which other examples, though less familiar, do exist as a significant variation in

¹ *Science and the Unseen World*

² *God* p 36

the process of evolution. He rejects His resurrection and miracles, all that is supernatural with vehemence, and is, therefore, compelled to dismiss Jesus' consciousness as Son of God as Father, and His hope of attaining Messiahship by His death as illusion. How far his appreciation of Jesus differs from that of all Christian believers may appear from the following sentence: "Whereas I am in no danger of discovering that I am like the founder of Christianity,¹ D. H. Lawrence veritably is. He happens to be more like him than any man who has lived for the past fifty years, unless perchance it were that other anti-Christian, Friedrich Nietzsche."² The mystical experience which he ascribes to Jesus also is for him the same as the anæsthetic experience, and his book is "the record of the way by which one man succeeded in disintoxicating himself from a mystical experience."³

(b) While he recognizes that religion as usually understood as faith in God has served to effect for men the reconciliation with the Universe which he has experienced, he himself has no further need of God. "Religion," he says, "depends upon the hypostatization of values, that is, their detachment from the significant variations in which they emerge, and which they are. God is the focus in which the whole galaxy of detached values is concentrated."⁴ Truth, Beauty, Goodness emerge in the evolution as 'significant variations'; they are detached from the process, hypostatized and focussed in God—the Father in the Christian Trinity. Besides the God of values there is the God of immediate experience, which is in like manner hypostatized and focussed. But "the unity of immediate experience, by whatever arduous contemplation it is reached, is always biological unity. Between the God of experience and the God of values there is, in reality, no communication whatever. It is only illusion by which they are identified." This God of experience would correspond to the Holy Spirit in the Christian doctrine. "There is yet a third God—not wholly peculiar to Christianity, but represented with unique emphasis in Christianity. This is the incarnate God. He is again totally different from the God of values, or the God of experience. He is a value actually emergent, a real and significant organic variation."⁵ The reference is here to Jesus, and the ascription of divinity to Him as Son. "These three Gods, all utterly different, the God of values, the God of immediate experience, and the incarnate God, are inextricably intertwined in the Christian religion."⁶ This brilliant, if often perverse, analysis indicates the value for religion which he is prepared to assign to this conception. A mechanistic science can never displace it, but the author believes

¹ Despite this disclaimer, the author sometimes writes as if he were

² *Op cit* pp 263-264

³ P 311

⁴ *Op cit*, p 211

⁵ P 213

⁶ P 215

that his own metabiological science can and will. It is thus he dismisses the Christian conception of God. "Of the three separate Gods which are thus incorporated in the Christian religion, we may say, in accord with our previous examination, that the God of values is intellectual fiction, though once necessary fiction, that the God of immediate experience is a means of describing a real and potentially significant experience, and that the incarnate God is real, but because he is incarnate he is not God."¹ It is one merit in this book that it so frankly dismissed the Christian idea of God, and does not under cover of the name God introduce an altogether incongruous conception.

(c) What the writer substitutes is a consistent naturalism, and against any belief in the supernatural he loses good temper and good manners. "Tell me that now in the year 1929 you veritably believe that Jesus rose bodily from the dead with the same simple conviction with which you believe that you are to-day alive, and will one day die, then I say that your world is a chaos, and more than this, that I believe you to be a liar."² Comment on such a method of argument is unnecessary. The author, however, has his quarrel with the mechanistic naturalism, with the ordinary biological view. And he formulates what he calls the *science of metabiology*. He coins this word lest, I suppose, by using such a term as psychology, he might appear to favour any conception of the soul or personality as distinguished from the body. He does distinguish biological *life* and metabiological *Life*, but is insistent on continuity in the process of evolution. Life is the achievement by man of his own coherent unity, and then of his coherent unity with the Universe as one organism. The man who achieves this can be regarded as "a significant variation" emerging in the continuous process. "What are in the common language of the day distinguished as 'values' are the qualities of those variations to which the individual consciously and deliberately responds."³ While these variations themselves are objective, actual in the Universe, the choice among them is entirely personal, but the individual will usually find himself in a company. "a whole succession of individuals have responded before him." There is not, however, a standard of values. "The choice which are the 'higher' and which are the 'lower' variations is a personal matter, that choice is simply the record of the variations to which the individual investigator consciously responds."⁴ "Conscious response, conscious refusal to respond, deliberate perpetuation, deliberate refusal to perpetuate—these are the facts concerning values."⁵ Man in this science takes the place of God, in him alone are the contradictions of the Universe to be reconciled, and its great values to

¹ P 216³ *Op cit.*, pp 206-207⁴ P 207² P 83⁵ P 208

be perpetuated. Man in his own newness must accept himself instead of God, having reached beyond life to Life beyond the biological to the metabiological stage. But this newness gives no promise of immortality, and raises beyond responsibility "It lies with the individual to decide what variations he will strive to perpetuate. This is if you like his moral duty. The point on which we insist is that he cannot help himself. He is merely a self-conscious organism responding by metabiological modes to previous or present variations." There is no ideal to be realized by free action, there is simply the real to be recognized and responded to, because one can not help oneself. You need not worry yourself about the existence of the ideal. Simple inspection will show you that it has existed and does exist only not as the Ideal. When the ideal exists it is simply the real, it is embodied in some thing or some person. What you imagined to be a response to the ideal is simply a response to the real, and you who respond are part of the real.² This Naturalism is therefore also a Realism. What alone exists is a natural evolution with a metabiological as well as a biological stage, in which emerge values in things and persons as significant variations. The author quite clearly regards himself as a significant variation, a value to which there should be a response, and which deserves to be perpetuated.

(d) I must confess myself a variation not significant enough to respond to, or to perpetuate the value of his metabiological science. There is in this book brilliant writing, subtle analysis, startling paradox, and at times a surprising appreciation of some values, which he is forced to dismiss as illusions, but I find no convincing argument or constraining appeal. With so insignificant a variation as Kant I cannot help myself (to use his language) in believing in the practical reason, the categorical imperative, the postulate of God, freedom, and immortality. Yea more, with the new man for whom the author expresses often what is a moving admiration. Jesus, I cannot help believing still in a Father in Heaven, the reality of all ideals in the God Incarnate and the God, who as Spirit in my inner experience is reassuring me that here is no illusion but reality. The substitute he provides may satisfy the author, the witness of human history supports the assumption that many men have felt and still feel their need of God and that they can find rest unto their souls only by coming to Him, who, meek and lowly in heart, knows and can reveal the Father. Although the author disclaims having a religion and offers us a science instead, such an interpretation of the Universe, with the practical personal attitude which accompanies it, is not a science, it is a religion, and as a religion is without God, it is not at all likely to become so contagious, that his "madness in a new

¹ P. 291

² Pp. 308-309

way," as he in his closing words describes his "variation" and "value" will "ultimately be sane" ¹

Such philosophies as these which have been here mentioned are a challenge to all Christian theologians to examine their philosophical presuppositions, to familiarize themselves with the conclusions of science, to appreciate its methods, purpose, and motive, and then so to formulate the doctrines which interpret the experience of Christians that they can offer men a religion, which, while adequate to the present intellectual situation, is not mutilated as must be any religion which is without God

¹ *Op cit.*, p. 317

HISTORICAL CAUSES

ADRIAN COATES M.A.

THE question in philosophy of whether History is a Science is rather like the question in Politics of the expediency of a Channel Tunnel it is one which provides a perennial subject for debate, there is no indication that it will ever be decided one way or the other, and it does not after all seem to matter much even if it never is decided we can get along well enough by neglecting it altogether. One might argue indeed that the dispute is not much more than a matter of words, of the intension and extension of terms. It is evident that the method and aim of the historian differ widely from those of the physicist, and on the other hand resemble closely those of the geologist. Why trouble to go splitting hairs?

That is one way of looking at the matter, but it is not the only way, nor, I believe, the correct way. The old adage might be requoted that there is no smoke without fire. There have been, even from the days of Herodotus and Thucydides, two ways of writing history. Historians so dissimilar in other ways as Gibbon, Renan and Carlyle are alike in being interested not in 'social tendencies' or 'racial types,' or anything of that sort, but in individuals, the Emperor Julian, or St. Paul, or Frederick of Prussia, and they assume that on the character and actions of such great men the course of history mainly if not altogether depends. But there are other historians who assume on the contrary, that individual actions must be treated as effects rather than causes, and that laws of social and economic change control the course of events and shape the future from the past.

Can these apparently contradictory assumptions be reconciled, and if so on what grounds? Or if they cannot be reconciled, which assumption are we to accept and which to reject? Here I believe we have the core of the dispute between those who regard history as a science and those who do not, and to suggest an answer to these questions is the object of the present article.

I

The problem as I have posed it, concerns the nature of historical causes. We need then a definite theory of causation. This is a thorny subject to tackle, but unless we tackle it resolutely, even at the risk of getting scratched in the process, we shall never get anywhere.

HISTORICAL CAUSES

There are some philosophers who would once and for all separate the sphere of human action from that of physical events by postulating in man a power of free will by virtue of which he as it were creates himself afresh in each act of rational choice which is therefore undetermined by anything existing previously. This is not the place to enter into a controversy about free will. I must be content with merely expressing the opinion that any statement of the libertarian theory involves a contradiction in terms, and that this contradiction appears in its most glaring colours when we attempt to apply the theory to the field of history. Any view of history must accept it as axiomatic that a man is what he shows himself to be by his actions; that what he is his character is at any particular time something definite, and that therefore there is a necessary relation between him and his actions. That is what we all do in fact suppose both practically in dealing with other people, and in judging the character of historical persons. It is not by denying the Uniformity of Nature that we can hope to separate History from the other sciences. This notion of uniformity or necessity is not indeed a specifically 'scientific' axiom but underlies all our thinking equally.

But if we reject the notion of 'free will' we must equally reject the opposite opinion that our actions are determined by the 'Laws of Nature'. This was the common mistake of the nineteenth-century materialists. Thus Buckle speaks of 'those general principles *which govern the order of events*' and the economic theory of Karl Marx is largely vitiated by a similar fallacy. Nowadays it is generally taken for a truism that the laws of science are merely descriptive: the particular does not depend for its occurrence on the general law, but rather the latter depends for its truth on the particulars which illustrate it. If I fall down, it is not 'because of gravitation', but rather there is gravitation because I fall down. As for the cause of my falling, it was probably that I did not look where I was going. The relation of the scientific generalization to the particular event is in fact the same as the relation of any universal to a particular. We know that Socrates, being a man, is mortal, but the fact of his mortality was not the cause of his death.

Perhaps this is very elementary, but the distinction between the concrete cause of an event and its explanation in terms of some generalization which includes it is frequently neglected, and always with disastrous results. Let us take as an illustration the case of suicide statistics. We know for instance that it is possible to relate these statistics with social conditions in such a way that the number of suicides in a particular town and year can be treated as a function of the prevailing social conditions and predicted within a very small margin of error. But we should be quite wrong to assume any real

causal connection between a particular suicide and the law which enables us to predict that so many suicides will occur. It is an instance of that law and helps to confirm its accuracy but the cause of the particular event must be sought for in the character and circumstances of the particular man and nowhere else.

It is true that the *number* of suicides seems to stand in relation to the social conditions as an effect to a cause. But this numerical relation is after all only an abstract summary of the several individual cases: it is a logical not a concrete relation. Also it is proper to observe that this relation is itself particular in the sense that it holds good only of one time and place. Not only the suicide rate of different cities varies but so does the incidence of the causal factors and although the number of suicides per thousand of the population which will take place in London next year can be predicted with considerable accuracy no one could expect that rate to hold good a hundred or even fifty years hence. It might be possible (perhaps it has been done or attempted) to establish some absolute relation between suicide and certain other social factors *e.g.* between the rate of suicide and the amount of drunkenness at *any* time or place but it is obvious that such a relation could never supply the cause of a concrete event since it is not an actual but only a hypothetical relation. The farther one departs from the particular the farther also one departs from the realm of concrete causation.

But it may be objected this distinction between general explanations and particular causes does not involve any distinction between the matter of history and that of the other sciences. Granted that every event has a particular cause and that the laws of science are merely descriptive that is no argument for treating human actions in a different way from physical events. The fall of a stone or the act of a man has equally its particular cause and its general explanation. That at any rate is the assumption that underlies the method of Buckle and the scientific historians.

Let us consider this assumption more closely.

The matter of history is the actions of men the matter of entomology is the behaviour of insects. In order to place these two studies on a proper comparative footing let us suppose a creature able to observe human affairs in the same way that we do the affairs say of ants—a creature that is to say endowed with super-human powers of observation and scientific reasoning but so far removed from our human nature as to have no conception of human character and motives. Suppose such a creature also to be endowed with powers of sight which could include the whole of Europe in a single glance and at the same time distinguish the motions of individual men and that he lived in a time scale so vast that our human years would be to him as minutes so that he could observe

and hold within his memory the processes of many centuries. Such a creature would be in a position to observe our affairs with an ideal scientific detachment. And what would be the result of his observations?

He would certainly have a wider grasp on the general course of events than is possible to us with our limited and imperfect acquaintance with the facts. He would be able to observe certain sequences and uniformities which from us may remain for ever hidden. He would be able to distinguish the characteristics of national groups, to notice the effects of climatic, geographic, and economic conditions. He might be able to foretell with some accuracy the results of wars; he would certainly not underestimate the importance of inventions, and of the accumulation of knowledge and material wealth. But on the other hand, he would of course remain completely ignorant of all the motives of love and hate, ambition and idealism which inspire the conduct of individuals. Though his knowledge would be derived from the same source as ours, it would be a different kind of knowledge: it would be more exact and comprehensive, and yet, owing to the lack of subjective interpretation, it would be in another way lamentably incomplete: it would be knowledge without understanding.

Now in the sphere of causation we find a similar contrast between the *abstract* and the *personal* points of view. In a purely physical time series we are presented with an 'endless chain of causation,' where each state or event is in the relation of an effect to what has gone before and of cause to what follows. This succession is uniform in the sense that there is always a 'necessary' relation between what happens and the nature of the things involved in the happening. But there is neither purpose nor agency involved in causation of this type; because these things both imply individuality. We say, for instance, in our loose, picturesque way, 'that the wind' has blown down a tree. But this 'wind' is in fact nothing but an event in the shapeless process of meteorological change, which we can particularize only in its effects. So too in the case of all natural 'forces,' we have nothing but effects on the one hand, and on the other the general nature of things and the endless chain of antecedent circumstances. *There is no focus of causation outside the event:* that is to say, no agency.

But in that case how is it that we do inevitably regard a cause as an agency which not merely precedes but *originates*? The answer is that we derive it, and can only derive it, from our own consciousness of purposive activity. Because we are conscious of being agents ourselves we recognize the agency of others. On this basis we distinguish between acts and events, between persons and things, and claim to be responsible for our actions. That is why we associate

also the idea of merely phenomenal causation with agency and say that the wind blew down the tree thereby in effect personalizing the wind as an agent. This is the pathetic fallacy—a fallacy which is perhaps not much less common among philosophers than among poets—it is the fallacy which lies behind the famous ontological proofs of the mediæval theologians. Children and savages commonly attribute purposive activity to inanimate things. We civilized adults have presumably grown out of that error—we distinguish our world into a personal sphere where inter-subjective intercourse and interpretation is possible and an impersonal or material where our knowledge is purely conceptual. But in so far as we attribute purpose and agency to forces and laws or antecedent circumstances we are still following the old anthropometric error of attributing personality where it does not exist or at least cannot be known to exist. The idea that the laws of nature compel is due in fact to falsely analogizing them to the laws of the realm which can compel since they are the organized expression of human will.

There are then according to my argument two categories of causation and two spheres of experience. One category depends on the logical notion of uniformity and of uniform succession the other on our consciousness of being persons. And in the one sphere of our experience only the first category applies but in the second both categories apply because we are dealing not only with events and sequences but with persons and wills. If we deny that the notion of uniformity applies to the personal sphere we reduce both history and our practical conduct to a logical chaos—that is the mistake of the libertarians. But if we fail to restrict the notion of agency or efficient causation to the sphere of human action we reduce our consciousness of purposive activity to a mockery.

II

The only concrete cause is the individual human will. That is the thesis I have tried briefly to propound in the preceding paragraphs. Let us see how it works out when applied to the matter of history.

In an historical account of whatever period or country one normally finds that climatic and physical conditions economic and social factors and the individual action of this or that great man are all classed together as efficient causes of this or that event. One finds too often enough that the individual is treated both as the cause of events and as a product of the circumstances into which he was born. But here there seems to be a confusion between two contradictory standpoints. For if we regard the process of human events as an endless chain there can be no room for efficient

causes of any kind every event is equally a cause and an effect and the whole of the future is already implicit in the past. On the other hand if individual action does in any way count, what are we to suppose is the relation between this particular causative agency and the general economic and social processes which it seems to interrupt in a quite haphazard and irrational way?

Suppose we distinguish in human affairs three factors physical conditions social and economic conditions individual purposes. Now we may observe that this combination of apparently heterogeneous causative threads is found equally in the case of nations and of individuals and it will perhaps simplify our problem if we reverse the Platonic method and consider the greater in terms of the less.

(1) The effect of climatic conditions diseases etc. on individual behaviour is indisputable. But what I believe we can and ought to say is that this is essentially a negative and limitative effect that is to say that bad conditions may warp and hinder development but good conditions can never add anything positive to the native equipment. Persons like plants need a good soil and due supply of air food and sunshine in order to develop their fullest capacities but the richest soil will never change a thistle into a rose or give a dullard genius. And as with individuals so with nations. We are all of us familiar with that First Chapter in our Greek History books which traces the influence of geographical conditions on the historical development of the ancient Greeks. There is nothing to object to in that so long as it is not assumed that we have here a *positive* explanation of certain features in the Greek culture. That would be to assume that *any* people living in Greece must reproduce those same national characteristics—which is absurd. Only because the Greeks were what they were did they develop as they did but the country they lived in limited their development into a certain groove.

We have had lately too the medical theory of history which makes the malaria germ responsible for the decay of the classical civilization and would attempt to write the life of Queen Elizabeth in terms of the pathologist's case book. It is certain indeed that peoples like individuals may suffer from physical debility it is certain that everyone must die but neither illness nor death can account for what a person positively achieves. Physical conditions can in fact be treated as efficient causes only because men share certain common potentialities which are neglected because they are taken for granted so that if a man reacts in the normal way to a special environment the effect is charged to the environment rather than to what the man is. But in so far as the individual is unique his reactions are unique. He may be constrained by material

circumstances, but what he positively does is his own, not produced from any other source

(2) Character is largely moulded by parents and family, pastors and masters, friends and associates, even by enemies. Each individual will is continually acted on and reacting on other wills. And it is acted on not only by the living but by the dead—the books a man reads, the heroes he admires, the religion or philosophy he accepts or rejects—all these things go to make him what he is, and it would hardly be denied that here too the influence is a personal one. The great ones of the Earth speak to us through the ages and command our obedience.

But what I believe is not realized or appreciated is that the social and economic environment in a wider sense is equally, in ultimate analysis, the product of personal agency. It is common nowadays to talk of this mechanical age of men dominated by machines. The fact is curiously neglected that every machine must have had an inventor. How can a mere machine ever be an agent? Those who most rail against machines seem to have themselves committed the fault of anthropomorphizing the objects of their disgust. One reason for this is that whereas 'spiritual' influences are clearly attributed to individual great men or particular institutions, the paternity of most inventions is far too intricate to set out readily: the obscure crowd of nameless claimants (Who invented the Tanks?) fails to supply the clear image which the mind requires to hang its thoughts and feelings on, and so the thing itself is endowed with the attributes of personality. But let not logic wait upon convenience. If the modern youth is more occupied with the cinema and his motor cycle than with the state of his soul, not the celluloid and bits of iron, but all those who have helped to fashion the modern Mechanical Age must be set over against St. Paul and Augustine and Calvin. Moreover, this influence exerted by such scientists and inventors is just as spiritual in a sense as that of the priests and prophets of old time. Mere matter can never produce a mental effect, save through the form impressed upon it by other minds. The machine like the book is but the channel by which one mind affects another.

As with inventions so also with the economic factors, which are a heritage from all those statesmen, economists, merchants, divines, soldiers and the rest who have made the present what it is. The interaction of so many personalities through so many generations produces such a complex web of influence that the task of assigning individual responsibility is quite beyond the powers of what our knowledge is or ever will be, but though the historian inevitably and rightly treats this development as a mere sequence of 'factors' and 'conditions,' we ought to recognize that these factors and

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sequences of his are but the secondary causes behind which lie the innumerable individual wills which provide the primary cause of all historical events

We are it is commonplace to remark the heirs of all the ages' The estate unfortunately is heavily encumbered But however we feel towards the past whether we welcome or repulse the thrust of mortmain on our shoulders it is an influence at heart no less personal than that of our own father upon us Realizing that we may realize that we also have it in us to help build the present and leave a future legacy we are not the mere automata of some eternal law or fast economic principle

III

In order to consider more closely the relation of the individual to his environment of past and present wills let us descend from the general to the particular and take a text from present history

According to the Peace Treaty of Versailles Germany was responsible for the outbreak of the World War Since then this question of War Guilt has been disputed in many hundred volumes but it is rather remarkable that among so many volumes of apologetic so little space has been given to considering what the whole discussion is really about

For instance I suppose that according to the scientific view of history all talk of responsibility is really meaningless If the whole process of events is governed by certain general laws if every stage of human development is implicit in what has gone before then it is absurd to fasten responsibility on this or that particular link in the chain the notion of historical responsibility becomes chimerical But then of course so does any kind of moral responsibility For the argument which applies to the acts of statesmen applies also to the acts of private individuals Here also we have a mere necessary chain of causation Such a complete denial of human responsibility can in fact never be carried to its logical conclusion It would rightly be rejected by the common people who held that if a man is put in prison for stealing the German Emperor might by the same logic be tried for causing the death of many millions Their mistake did not lie in applying the notion of responsibility where it was altogether out of place

But what do we mean what can we mean by Germany ?

(1) There are those who argue that a whole is greater than the sum of its parts and that a State is more than the sum of individuals that compose it This transcendental mystical view of the State was a particularly Germanic conception But it does not help us when we come to fixing responsibility it rather leads and did

actually lead in the hands of Hegel's successors, to the conclusion that the State is not amenable to the moral judgment of private individuals—which is not a doctrine we are likely to accept in these latter days

(2) Popular opinion, with its instinct to personalize everything, identified Germany with the German Emperor, but we have learned now what a meagre and futile part belonged to the national figure-head. The Germans also have argued that responsibility, if it belongs anywhere, must belong to the Government in power in 1914. But this view was rejected by the Allies, and it is hardly to be denied that a Nation and its Government are two separate 'entities'

(3) 'Germany' means the Germans, the whole population of the country. But it means something more than this: it means not only all living Germans, but all dead Germans, and not only Germans, but those others who from without have affected the character of the German people. What 'Germany' was in 1914 depended on the whole past history of the country. The roots of the war can be traced, at least, through all the previous century's history. There can be no doubt that one of the chief causes was the Emperor Napoleon, who first created the modern nation in arms, and who by his treatment of Germany sowed the seeds of 'Prussianism'

But how in that case can blame attach to those who were always driven forward by the pressure of what had gone before? This is a question that it is of the highest practical moment that we answer correctly. Nor can I propose a short or 'cut and dried' answer to it. The whole question of what 'responsibility' means is involved in it. But without going deeply into the ethical problem thus raised, we can perhaps settle certain points in the light of my previous argument.

It is absurd to castigate individuals for acting on assumptions which everyone at the time accepted, at least in the sense that they did not actively repudiate them. There is a sense in which we all (with a very few honourable exceptions) have a share in the responsibility for the four years of death and disaster: we were all sheep without a shepherd. What inevitably strikes the student of European diplomacy in the years before the war is the weakness of most of the chief actors in the scene. They do not direct events to their conclusion, but are rather drifted by the current to the precipice's edge. Hence that impression of the inhuman inevitability of the whole sequence of events. Yet it would be bad logic to argue from the fact that the statesmen of Europe were unable to prevent a catastrophe which most of them wished to avoid to the conclusion that no statesman can in any circumstance control the march of world events. Moreover, there were in fact, and not in Germany alone, many who to a greater or less extent wanted war. The clause

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of the Treaty which fastens the responsibility on 'Germany' is absurd in two ways in attributing responsibility to myriads of individuals who were powerless to change the course of events, and in asserting that one particular people was responsible, whereas the responsibility must be shared by individuals of many countries and many times. But in assuming that responsibility could, at least in theory, be attached to certain definite persons the authors of the Treaty were surely not absurd, but fundamentally right. If no one is ever responsible for any war, how can we as individuals ever hope to prevent war?

Historical greatness might be measured by the degree of a man's power to control events, instead of being controlled by them. By that measure we judge the pre-eminent greatness of such men as Alexander or Mohammed or Galileo, Cæsar and St. Paul could between them make a new heaven and a new earth. But even the average statesman must leave some impress. Every individual is responsible according to the circuit of his activity, however minutely prescribed. Continually the Present adds something to the Past, in the shape of new wills, each unique, originaive, purposive. Were it not so we should not be inheritors but slaves of the Past.

Is it true, as is often alleged, that the present day allows to the individual man of genius less scope than did the past? The modern impersonal view of history would hardly have been possible while Napoleon was pulling down and making kings over the checker-board of Europe. But now, it is said, the issues of politics are too vast for the individual mind to cope with them, and war has become the service of machinery of death. Perhaps. But if only the practising statesman is capable of realizing the terrific pressure of contending interests, the immense difficulty of directing the whirl of daily circumstance, perhaps the onlooker is better able to judge and appreciate the work which he does in a particular and characteristic way get done. And was not the professional mediocrity of the military leaders the chief reason for the long mechanical stalemate of mutual slaughter? If Birdwood or Byng had commanded at Suvla instead of Stopford, might not the 'personal factor' have changed the subsequent fate of millions? And would anyone dare say the fate of Europe owes nothing to the personality of Lenin, Mustapha Kemal, and Mussolini? Take even a more striking case. Is it not true that the foundation of the League of Nations depended on the work and initiative of a bare half-dozen persons—this League which contains the promise of a new Catholicism?

Yet it is perhaps true that in England at any rate the age of Cromwells and Pitts has passed away. The reason is not that we live in an 'age of machines,' but that an enormous number of powerful wills is brought to bear on every important question of

exceeded my intended limits, and there are still many facets of the problem that I have not even glanced at. But instead of attempting any further development of my argument, I wish to conclude with two general points, which may justify, or at least explain, the attitude that I have adopted.

(1) What I have been primarily concerned to show is that here there is a very real problem. One thing I am fairly certain about is this: that a historian—and who can avoid being a historian to the extent of holding opinions about past events?—must have a definite theory of causation to work on if his historical judgments are to have any logical force. Let me quote for illustration a sentence from a recently written little book about the Reformation by Mr. David Ogg —

"As historians emancipate themselves from the 'Carlylean psychology, heroes and hero worship will be more and more discounted, and a future generation may be able to prove that the Reformation was due solely to economic causes in which human personality had no part."

Now if indeed it could be proved that human personality had no part in shaping the Reformation, then we could hardly avoid the further assumption that it has never counted in any event if the purposes of individuals were totally ineffective during the sixteenth century: then surely they always have been and always will be totally ineffective. Yet Mr. Ogg (a) puts human personality and economic causes on a par, as though sometimes the one and sometimes the other might be effective, and (b) assumes that the question of which was effective on any particular occasion was something that could be decided by historical evidence. But it seems to me that we have here to choose between two contradictory alternatives, and that our choice cannot possibly be decided on historical grounds, but is essentially a question of logic. It is not a question of 'psychology, Carlylean or otherwise, but a question of our general view of reality.

(2) It is plain that the point of view I have been advocating is based on a pluralistic view of Reality: it supposes that human personality is ultimate and that the only real cause is the individual human will. There are two other points of view, that of materialism and that of transcendental idealism. The materialist supposes that human actions are determined by natural 'laws,' physical, or psychical or economic. And the result of that view is plainly seen in the following extract from a book by Havelock Ellis, *The Dance of Life* —

"Although the morals of a community at one time and place is never the same as that of another, or even the same community at another time and place, it is a complex web of conditions that

produces the difference, and it (is) evident that to attempt to affect it (is) idle "

Here is the logical conclusion of the 'scientific view' of History, and it is not a pleasant one. Some writers indeed suppose that, since the characteristics of science are prediction and control, making history a science means that 'we shall be able to control the future of mankind as we control the physical elements to our uses. It does not need much argument to show that 'we' who propose to control are part of that which is controlled, and that the controlling power belongs to the "complex web of conditions" which it is idle for us "to attempt to affect

The transcendental attitude, which regards history as the realization of the real, reaches the same conclusion by a different road. For if everything which has been or will be is already implicit in a Reality which lies outside time, what is the relation between this First Cause and our individual wills? The logical conclusion in both cases must be a fatalistic view of the world process.

Against both these attitudes I would urge that it is morally essential to hold the view that we are all of us all the time, in however trivial and private a way, 'making history', and that this view rests on two suppositions —

(a) That, in the words of James Ward, "the actual is wholly historical",

(b) That personality is focal to all reality

tion—the notions of substance and cause, of consciousness and purpose, with the result that those of us who still think in the old categories of common sense can no longer converse intelligently with the supermen of science and philosophy. But they meant even more than this. They meant a fundamental dissociation between logicity and natural language—a fundamental depreciation of the entire logic and metaphysics of the past. To the advanced modernist the entire natural bent of the human intellect has become but a bundle of prejudices by which we are hideously possessed, and there are not wanting daring innovators of varied schools who would have us completely turn our backs upon it.

It is by ways of thinking such as these that men have come to justify the strange and paradoxical things they are saying, and to persuade themselves that we have entirely new notions both of what facts and standards of thought are. It would not, I think, be far-fetched to connect this new mentality in science and philosophy with similar changes in our entire culture—to see in it but a single phase of a great change in cosmic weather which affects all the spiritual activities of man. If a Stravinski could not be understood by a Bach or a Beethoven, it is because of his abandonment of that tonality which meant intelligibility for musical minds of an earlier day. If a Matisse or a Picasso would be unintelligible to a Leonardo Da Vinci or a Michelangelo, it is again because of their abandonment of a visual idiom which, rightly or wrongly, was the condition of meaningful expression in the representative arts. If an Einstein or a Bertrand Russell would at many points be talking nonsense to a Newton or a Kant, it would again be for no other reason than that the former have abandoned certain norms or standards of thought which have hitherto been considered the conditions of intelligibility and intelligible expression.

Modernism in science and philosophy, no less than in the arts, has its 'cult of unintelligibility,' and it is just as well for us to recognize the fact. It is not merely that we are willing to say things that would have been utterly unintelligible to the minds of the past. It is not merely even, that scientific thought in its latest phases has consciously abandoned the age old linkage between its world and that of common sense and the ordinary consciousness, and specifically disavows the obligation of making itself intelligible in this sense. What I have in mind goes very much deeper than this. Science in some of its moods is ready even to abandon the conviction that Nature is understandable and subject to law and reason, to accept a situation, "new and unthought of—" to acknowledge that a point has been reached "where knowledge must stop because of the very nature of knowledge itself. Beyond this point meaning ceases."

And philosophy? Have not the ancient obligations to ordinary

intelligibility long since lost their claim? Is it not precisely the fundamental characteristic of all the typical modernist philosophies—of Pragmatism, Bergsonian Intuitionism, and Logical Atomism—that they all disavow, not only the validity of the fundamental categories of the natural reason, but the very faith in an ‘intelligible world’ in which traditional philosophy has hitherto lived and moved?

II

I have spoken of the strange things that we moderns permit ourselves to say. But it is, after all, not so much the things we say that interests me as a curious willingness, nay even eagerness, to say them. It would be scarcely seemly, perhaps, to suggest that the desire *épater le bourgeois* has entered into the souls of the intellectuals, even the philosophers, although I suspect that this very human impulse is not wholly absent. Let us rather believe that so great a change, in the very quality and texture of our thought, has its source in some more fundamental and far-reaching mutation of the human spirit itself, in something that compels it—as it were, even against its will—not only to say these startling and paradoxical things, but even to believe that that alone which is paradoxical is likely to be true. Such a change has, I believe, taken place.

A fundamental characteristic of the modern man, as Paul Rosenfeld says (he is writing of the music of the moderns, especially of Bloch) “is his lately gotten sense of the tininess of the human element in the race, the enormity of his animal past.” For the typical modern, “the primeval forest with its thick-spawning life, its ferocious beasts, its brutish phallic worshipping humanity, is still here. Before him lie the hundreds and hundreds of years of development necessary to make a sapient creature of him.” That the moderns write novels, compose music, and paint pictures “as those who feel this,” goes without saying. But that it is also the hinterland of all typically modernist *thinking* is equally patent to all. Can one wonder that the modern man, with this lately gotten sense of the smallness of his own humanity and of the ambiguous character of his mentality, should in his very thinking show all the symptoms of his instability and ambiguity? Himself a paradox, can he think otherwise than in paradox? Incredible to himself, can he find anything ultimately credible in the natural metaphysic of the human mind? Can he trust the spiritual initiatives out of which his religion, his art, nay even his “science” itself, have sprung?

Nietzsche had said that he counted no thought true that did not draw its drop of blood. Is it too much to say that we moderns have almost come to believe that nothing can be true that does not go

contrary to the natural bent of the human intellect? Tertullian had argued *credo quia impossibile est*. The moderns argue much like the irrationalists of old. Then it was held that the human reason is infected with error because of original sin. Now it is felt that it is infected with the same inherent liability to error because of its purely biological origin. We moderns have, in the words of Berkeley, "contracted and degraded human nature to the narrow, low standard of animal life," we have reduced the human reason to "a mere pittance of its former self." Can we wonder that most of our reasoning has become for us mere "rationalization," and that only that can, it is felt, be true that goes counter to the natural bent of the human intellect?

This contempt of our native mentality pervades our entire culture. One sees it throughout the arts, the sciences, and philosophy. Because men have a natural tendency to write grammatically and logically, the new poetry will try to write without grammar and logic. Because men have a natural tendency to see things in the round, the new art will try to see them in cubes. Is it really any different in the world of thought? It has always been natural to think of the permanent and the unchanging as the more real, let us now turn things around and seek the real in the temporal and changing. The human mind has a natural tendency to think of God as "maker," we will now try to think of Him as "in the making." A natural tendency of the intellect has driven us to think of Him as one, we will now try to think of Him again as many. Nietzsche expressed the true inwardness of the entire movement of our thought when he said "Parmenides said we do not think that which is not. We now find ourselves at the other end of the scale and say, what can be thought must surely and necessarily be a fiction."

It is in ways of thinking such as these that the modern mind has been working, and we have now, I think, some insight into 'how we have got that way.' How much of this perversity is due to genuinely new facts and new ways of seeing facts it would be hard to say. How much is due to intellectual boredom, or to a merely wanton eagerness 'to try anything once,' is again difficult to decide. We may suspect, however, that the more ultimate source is to be found in just this thoroughgoing disillusionment regarding our natural mentality, and in a corresponding distrust of all its works whenever it is acting in any ordinary and normal way. This distrust is the more or less unconscious source of all the more modernistic tendencies in art and science alike. In philosophy, however, in this more self-conscious procedure of the human reason, the true inwardness of the entire movement has at last become explicit. The entire situation in present-day thought is epitomized—for me at least—in the almost universal depreciation of our natural language and of the logic

bound up with it which we find characteristic of all the more typical recent philosophies

Of our natural language all we moderns have much the same things to say Being as Anatole France says but the cries of the forest complicated and corrupted by arrogant anthropoid apes how can we expect it either to grasp or to express reality? Our logic? Being but our natural language hardened and crystallized how can the categories of that logic do other than falsify reality and lead us into the verbalisms of a false science and a false metaphysics? In one way or another this is the underlying assumption the major premise expressed or unexpressed of all forms of modernist thinking whether it be the logical atomism of a Bertrand Russell the mystical intuitionism of a Bergson or the pragmatic fictionism of a Vaihinger And they do not hesitate to draw conclusions Thus Mr Russell has the courage of his convictions A great book he says might be written showing the influence of syntax on philosophy in such a book the author would trace in detail the influence of the subject predicate structure of sentences upon European thought more particularly in this matter of substance And it must be understood that the same reasons which lead to the rejection of substance lead to the rejection of things and persons as ultimately valid concepts I say I sit at my table but I ought to say One of a certain string of events causally connected in the sort of way that makes the whole series that is called a person has a certain spatial relation to one of another string of events causally connected with each other in a different way and having a spatial configuration of the sort denoted by the word 'table' I do not say so because life is too short but that is what I should say if I were a true philosopher Now if you have a fine intellectual ear you will have no difficulty in catching the affinities between this and the poetry without grammar or the music without tonality David Hume might indeed have said something like this but he would have said it with his tongue in his cheek A sense of humour is not however the strong point of us moderns

I should like to analyse at length the curious mentality into which our fear and contempt for everything human has driven us If space permitted I should speak of what Mr Ralph Adams Cram has called the abandonment of the human scale —how in our ghastly fear of the human all too human we take refuge not only in our arts but in our thought in the colossal and the inhuman I should speak of our deadly fear of the past and of its prejudices and of the entire cult of futurism that springs from it how for the modern mind ideas are no longer disproved they are merely superseded by new ideas how the latest becomes the truest and time refutes everything I should like to speak of these things Instead I will call

attention to one outstanding quality of the modern mind in which these moods express themselves and in which the sophistication of which they are the signs reaches its culmination

I confess that I am at a loss to give this quality a name I might call it "radical empiricism," or the loss of the sense of intrinsic rationality I choose rather the phrase in which Ferrero has attempted to describe the same thing—"the attempt to combine the incompatible" This too arises from a deep-seated fear, the mistrust of our own logic, our own rationalization The profound contradictions in our modern life and thought lie open to every eye We have learned to combine in one idea of progress 'both peace and war, justice and violence, steam ploughs and Lewis guns, Pasteur serum and melinite' Why should we not also learn to combine incompatibles in our science and philosophy? And, indeed, if there are no limits to creative thought, if the doors of the future are completely open, why should we hesitate before self-contradiction, why should we not combine the incompatible? As a matter of fact, the 'radical empiricist' who embodies this modern mood is as likely as not to see in this very *tour de force* a sign of intellectual greatness. At our level of development, our minds being what they are, would not the inclusion of the contradictory and the unintelligible be a sign of reality and largeness rather than of error?

It is in this indifference to self-contradiction—this too great readiness to combine the incompatible—that I see, not only the deepest note of modernism, but also its most serious portent for the future I agree with Ferrero that "we have here the great problem with which contemporary life and thought is confronted Everything seems to totter to its fall around man, who, by transcending every limit, even the reality of the world, has become too powerful" Transcendence of all natural limits, contempt for natural law in society and politics, keyless music and a counterpoint that ignores all the old harmonic laws, free expressionism that ignores all limits of representation and of medium, the abandonment of norms in thought and in action alike—all these obstructions, as they are called to creative thinking and doing—this in one form or another, is the motive of all phases of modernism 'Human, all too human' is the scornful epithet applied to the entire natural metaphysic of the human spirit and the abandonment of all human scale is considered the condition of progress

It would be informing—and perhaps amusing—to examine in detail the various paradoxes to which this new mentality drives us—to savour in all their richness the strange sayings, the intellectual grotesques which, to our modern ears, accustomed to contradiction and *tours de force*, have become almost commonplaces Instead, I shall proceed at once to what seems to me to be the fundamental paradox

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of modernism—to a deep-lying contradiction which is at once the source and the epitome of all the others

The modern man is nothing if not sophisticated. Needless to recount what that sophistication has done to him, what an unscrupulous and uncritical application of "science" to all his spiritual initiatives has made of them. They have been progressively "denatured," and, in so far as they survive at all, are reduced to mere instincts in the service of the biological life. But this is really only one side of the picture. Scarcely had the scientific spirit begun to celebrate its triumph in other spheres of human culture when modernism entered into science itself. The movement came full-circle, and resulted in a philosophy of science, according to which its own concepts and laws have themselves no ultimate validity but are merely useful instruments for the control of phenomena in the interest of life. The "take-s progress" of modernism has been swift and certain. Starting with the assertion of the independence of science, its divorce from wisdom and the moral and spiritual values, the acknowledgement of which is implied in wisdom, it has ended in a philosophy of illusionism that includes science itself. Few scientists quite dare any longer to look truth full in the face, and truth and reason are terms almost lost from the vocabulary of other forms of the human spirit. Of the modern spirit it has been well said —

It feels that knowledge is the only good,
Yet fears that science may confound it quite,
Changing what yesterday seemed logical
To something different and bitter overnight

It is this confounding of knowledge by science—is it not?—this something different and bitter that has entered into our logic, that affords the key to the whole modern spirit. Here the two chief strains of modern science and philosophy have united, and out of their conjunction has been born, as by some monstrous miscegenation, that strange combination of depression and exaltation, of illusion and disillusion, of distrust and credulity, that we call the modern mind.

III

We may well ask what is the significance of this disturbance of our intellectual equanimity? Is it all a mere flash in the pan—a temporary aberration from the straight path which human thinking has traversed heretofore and will resume again once more? Or does it herald a new era in which a radical empiricism, with its inherent irrationality and a-logism, will be the order of the day—in which there shall be complete loosening of principles and a free rein to "creative thinking?"

This question is not easily answered. My own belief is that we are living in an age of transition to a period when the great systematic thinker will appear again. It is, of course, inconceivable that we shall ever go back to pre-Einsteinian conceptions of matter or to pre-Darwinian notions of life and mind. These conceptions have all gone into the melting pot, and cannot conceivably come out again in their earlier forms. The thinker of the future will profit by the confusion of our contemporaries, absorbing into his creative work all that he finds suited to his constructive purpose and discarding all that is useless and unintelligible. On the other hand, I believe that when such a master of thought appears he will find much of modernism a temporary aberration. He will find, I think, that many of the first works of philosophy will have to be done over again. And the chief of these will be a revaluation of the human intellect, a new critique of human reason. The present depression of humanity has its origin largely, if not solely, in man's degraded sense of his own origin. Life, it has been well said, is reaching the end of its tether. Humanity rots for a new definition of life. Is it too much to say that knowledge, 'science,' has in a very real sense also come to the end of its tether, and that it too demands a new definition of mind?

I have suggested that it is possible that we moderns may have got beyond our depth—

have ventured
Like little wanton boys that swim on bladders
These many summers in a sea of glory,
But far beyond their depth

This is surely a possibility to be considered. For when we find ourselves compelled to say the paradoxical things we do, when we find ourselves talking a language which divides us completely from the mentality of the past, and one which we in our more human moments know to be unintelligible, and when, finally, we find ourselves wantonly confounding our own knowledge by our science, then, indeed, does it not seem likely that the sea of glory to which we have so confidently confided ourselves on our frail logical bladders is in very truth beyond our depth?

It is not to be denied, I think, that some feeling of this sort is more or less common with regard to ultra modernism as we find it in science itself. Thus Mr H. G. Wells, for instance, feels that 'the analysis of matter in the last century has reached a point where it has ceased to be in any human sense wonderful. It is simply incomprehensible. Every statement is a paradox, every formula an outrage on common sense. The science of the elements has become too difficult for the ordinary man to grasp. In the deeps or heights of physics—for one word is as good as another where all direction is

lost—I find my mind sitting down at last, exhausted of effort in much the mood of Albrecht Durer's *Melancholia* "

Far be it from me to suggest that because things look like that to Mr Wells, or to me in some of my more heart-searching moments, that so it is actually with science. Yet after all, when mathematicians themselves tell us, even playfully, that their science is one in which they do not know what they are talking about, or when physicists tell us that the very method of modern physics involves the paradox of explaining the familiar in terms of the unfamiliar, and that the translation of the unfamiliar back into the familiar becomes progressively more and more difficult surely one cannot be blamed for wondering in just what direction science is moving. We may agree with Mr Eddington "that there is no particular awkwardness in developing a mathematical theory in which the elements are undefined, but we must also agree with him that it is desirable that in some stage of the discussion we should get to know what we are talking about." I, for one, do not hesitate to hazard the guess that modern science will either find some means of translating its Volapük back into natural language and into the categories of the human intellect that go with it, or it will be progressively more and more inarticulate and irrelevant to the philosophical interpretation of life.

However it be with science, surely there can be no two opinions about philosophy. If we have our suspicion about the intelligibility of much of modern science, it is surely more than a suspicion with regard to modernist philosophy. Whether the abandonment of the natural reason, and a too blithe following of mathematics, has taken science beyond its depth we may leave for science to decide. In philosophy the situation is radically different. Here the penalties of the abandonment of the *sensus communis* and of the obligations of ordinary intelligibility are immediately apparent. Philosophy soon finds itself beyond its depth. The points at which modern philosophies are floundering are apparent to all. One by one all the fundamental categories have been extruded from the polite discourse of the philosophers until as Mr Santayana has said, "philosophy has been shorn of the very concepts that have hitherto made communication possible." One has merely to try to follow the painful attempts of the more modern philosophers to create a new philosophical idiom to realize how far beyond our depth we really are. With the vain and heart-breaking attempt to put some meaning into a world without form—to make absolute becoming in some way intelligible—all the distinctively "modern" philosophical minds have been engaged. Bergson, Croce, Whitehead, Alexander—to take only typical examples—each in his own way wrestles with the problem, and none can wholly disguise from us his hidden sense of his own unintelligibility. All demand that "we take time seriously," and no one will

deny, I fancy, that they have a serious time in doing so. One may at least be permitted to wonder whether time, with all its little ironies, will return the compliment.

What is science's meat may easily be philosophy's poison. The individual sciences may, for instance, conceivably breathe anew and flourish under such a loosening of principles as characterizes the present as medicine once flourished under the scepticism of an Anesidemus. In philosophy, however, which seeks the whole, the very ideal of truth itself tends to fall apart and gives place to changing hypothesis to eclecticism and virtuosity, to paradox and aphorism to scepticism and mysticism—in short, to the very qualities which we have found characteristic of the modern spirit. From the standpoint of a thoroughly unscrupulous empiricism, these things may be read as signs of progress. But from the standpoint of that integral thinking which we call philosophy, they may well be interpreted as signs of decadence and dissolution—of spent forces and blind alleys, into which powers that have lost their true and original course have unwittingly run. One should not be too harshly judged for thinking of them, like Spengler, as marks of a declining culture.

The changes in our mentality I have been describing have been hailed as the triumph of open-mindedness, as the abandonment of all prejudices and the unstiffening of all theories. And this is in part true. They have opened up to us vistas into life and the universe that are both exciting and unsettling. These changes have also been beralded as the triumph of life over intellect and mechanism. And there can be no doubt that the new ways of thinking have released us from the hard pressure of the mechanisms of the nineteenth century. Out of the stiff frame of matter and motion broke forth the play of a new energy and a new life. With the unstiffening of our physical theories has come a greater suppleness of intuition and insight. This victory of life over intellect and mechanism was a victory but to many it seems a Pyrrhic victory in which much was also lost—perhaps the flag of Truth itself. It was a victory of life, but also a victory over thought, of change over the permanent, of the relative over the absolute, of the temporal over the eternal. A flood of eager life has broken down the barriers of mechanism, but it has also carried with it much of the structure of rational thought. It is here that we moderns must be on our guard. The "downfall of classical physics" may indeed be welcome, but we may well take heed that it does not take classical philosophy with it.

To what extent this new mentality, this shift in our logic, has been gain or loss, no one can as yet say. For myself I cannot doubt that it has carried us far beyond our depth. Of a certain wantonness in present-day thought there can be no doubt, but I cannot feel that it

is merely the wantonness of little boys. Such was, perhaps, the delicious irresponsibility of William James, who could write such fantasias as his chapter on "Pragmatism and Common Sense," and could say of the "truths" of common sense, science, and philosophy, "which is the more true, God only knows!" But modernism has grown on what it feeds upon, and this irresponsibility has acquired a sinister note—that sinister note which Nietzsche long ago sounded, and which has been growing in harshness and loudness through the decades that have since passed. We moderns feel that we are on "the brink of the unmeaning" because we are trying to get truth, value, meaning, into a world in which these things cannot really be. We began by conceiving the world as a-moral, then as a-logical, and finally we have come to the point where there is no *universe*—in any intelligible sense—at all. It is this glimpse into the pluralistic, the chaotic, the unmeaning—into the heart of nothingness itself—that gives us fright. Nihilism is the predestined goal to which the modern logic has been driving. Nietzsche's poem, *An der Grenze des Wissens*, is the perfect epitome of our mood.

The truth is that we moderns feel—nay, we *know*—that we are beyond our depth. We sense it in our physics. We sense it in our sciences of life and mind. Above all, we sense it in that concept of universal evolutionism to which we have committed so much of our trust in the intelligibility of our world. The brute fact is that the panorama of evolution—that comprehensive plan of the sequence of natural events, as it unrolls before our eyes—may *seem* to be intelligible, but fundamentally we know that it is not. With the poet, we are coming to feel how "passing strange" the whole thing is.

Out of the earth to rest and range,
Perpetual in perpetual change,
The Unknown passing through the Strange

We feel that we are on the brink of the unmeaning, and who that is honest with himself will doubt for a moment that it is this same universal evolutionism that has brought us there?

IV

To be brought to the brink of the unmeaning is no light experience. Is it not possible that we have allowed ourselves to be swept along too easily and too fast? Is it not at least conceivable that we may have to reconsider a large part of the premises and assumptions upon which our minds are now working?

My own belief is that we have suffered too gladly and too long the monstrous irresponsibility of certain individuals and groups of thinkers in philosophy. We have hung our heads in shame before

these supermen who have assured us that only after we have changed all our modes of thinking can we hope to attain the heights of intelligence on which they have their being. We have taken some of these modernist movements of thought too seriously. I, for one, have at least a suspicion that when we find it necessary to change all our modes of thought there is something questionable in the alleged 'facts' that compel us to make so drastic a change, when we require an entirely new language and logic to apprehend and express reality it is because there is something essentially unintelligible in the conception of reality we are trying to express, and that, finally, when we are brought to the brink of the unmeaning there is something radically wrong in the thinking that has brought us there.

Of all this of course, we can have little more than a rather shrewd suspicion, and it is always possible for the radical innovator to close our mouths. In the arts this situation has long been recognized. If I insist that the slender elongated metal object which Branchist calls "Bird in Flight" is not that for me, or at least is not comprehensible to me under that title, it is only necessary to say that I am a victim of certain inveterate prejudices, certain habitual ways of seeing, that I must learn to overcome. A similar *argumentum ad hominem* has been resorted to too much and too lightly by modern thinkers, and I feel sure we have been much too easily impressed by it. If the modern Behaviourist constructs some grotesque substitute for mind, and I fail to recognize it as such, if certain other philosophers construct other grotesques which they call God, and I fail to see in them anything like that which has always been known as God by rational man or if, finally, they construct notions of Evolution which have in them nothing of the older notions of development out of which evolution has grown, it is always possible for them to say that certain persistent habits of thought prevent me from understanding. Now the difficulty is not to understand what these modernists are driving at. We understand that well enough. The real difficulty is to convince ourselves that these thinkers have said anything very significant or even very intelligible philosophically. We might indeed abandon our "prejudices," if we could be sure that we were not abandoning our reason also.

I think we have a right to be suspicious of this constant talk of abandonment of prejudices, of an entirely new mentality and of new conceptions of fact and of logic. "He who throws away his prejudices prematurely," says Keyserling, "does not gain his freedom, but rather bars his way to it. Our own times illustrate this truth with terrible clarity. Modern humanity has destroyed the forms whose development made our ancestors profound, and since it has not developed any new ones to replace the old, men are becoming more superficial and more evil from year to year. The great idea of freedom

which humanity proclaims it does not understand inwardly, and for this reason it brings destruction rather than salvation." Keyserling is speaking primarily of moral prejudices and moral forms, but the principle is no less true of the prejudices and forms of reason. Logic is as Herbart said, *die Moral des Denkens* and the first principle of that morality is that we acknowledge the validity of those forms or norms of thought in which humanity has always apprehended and communicated reality—in short the *logos* itself, that eternal reason out of which man's rational freedom can alone spring. I cannot escape the feeling that we moderns may also destroy the forms of reason that made our ancestors profound and that we may become not only more superficial and evil but more self-contradictory and incoherent from year to year.

Here we have I think the great divide between the modern and the eternal man between modernist and traditional ways of thinking. In the past there have always been some things that simply are not done but there have also been some things that *are not thought*. For the modern man there seem to be no things that he will not think. His ideal seems to be not only to think beyond the distinction of good and evil but beyond the still more fundamental distinctions of rational and irrational, true and false. There are I think, some things that we shall have to learn to acknowledge again with 'natural piety,' and among these are certain obligations we owe to our natural intelligence with its natural logic, on which all intelligible communication depends.

Our ancestors spoke of the 'natural light of reason' and by that light they believed that they could know certain things that "are true no matter what." I think that we shall have to look for that light again. I do not mean to suggest that this light has always been truly discerned, and that we may not, like our ancestors, at times mistake the things revealed by its glow. What I do mean is that when through the abandonment of that light we are brought to the brink of the unmeaning, it is time for us to search for it again. Still more do I mean that when the positions we reach in our thinking are internally contradictory and do not make sense, it is time for us again to reconsider the old standards of thought—of sense and intelligibility, of coherence and logic.

I cannot help thinking that even in recent science itself there is a too great readiness to accept the a logical and the unmeaning as the deepest character of reality. The reverse side of radical empiricism, with its willingness to combine incompatibles, is possibly a virtue that may be pressed too far. I have spoken of the situation in modern physics, new and unthought of, where we have reached a point beyond which all meaning ceases. In commenting on this a distinguished physicist has said: "The logician will have no difficulty

in showing that this description of the situation is internally self-contradictory and does not make sense, but I believe that, nevertheless, the sympathetic reader will be able to see what the situation is, and will perhaps subscribe to the opinion that to describe it a new language is necessary. Now I do not for a moment suggest that science should be blamed for its open-mindedness. It is quite possible, as I have said, that the special sciences may, up to a point, actually flourish under the loosening of all principles. But I am sure that where science touches philosophy it must move with care. Even in science a too thoughtless worship of radical empiricism may easily take it beyond its depth. I have a suspicion that, even in science itself, so fundamental a contradiction as the foregoing cannot be permanently entertained by the mind of man.

In any case, I am sure that this loosening of all principles is fatal to philosophy and that to abandon the natural light of reason is to plunge it into the darkness of utter unintelligibility. I have spoken of the necessity of philosophy doing its first works over again, and it is precisely at this point, if I mistake not, that the task will have to begin. A new *critique* of reason, a new evaluation of the human intellect and of its logic is the prime *desideratum*. Everywhere, by a steady and devastating process, axioms have been turned into postulates and postulates into prejudices, until we have little but 'prejudices' left. We must learn again to distinguish between prejudices and necessary presuppositions of intelligible thought. It is necessary again to realize that there must be some limits to thought, some things that are true, no matter what—something of the *a priori* somewhere in our thought, some natural law in life, some natural bent of the intellect which it is impossible to unbend, some natural movement of reason on which it is madness to turn our backs. I do not doubt that there has been method in our madness. I do not deny that we have learned much by this method, but we have, I think, learned all we can. I suggest that it is time to turn back from the unmeaning to which it has brought us.

If I should put in a single phrase all that I have been trying to express, it would be that we need to recover again that "natural piety" of which Mr. Lloyd Morgan has recently so eloquently spoken. Such natural piety would, I agree, include the acknowledgment of certain distinctions of the *sensus communis*, certain inmitigable meanings and values of things. It would include also the acknowledgment of certain ancient principles, like that of "intelligible causation" which spring from the natural light of reason, a light which in the end no amount of sophistication can dim. But it would include even more than this. It would include a piety towards our own reason—its natural language and logic—a piety which, however inaptly expressed at times, has uniformly been embodied in

the doctrine of *transcendental mind*. For unless mind in some way transcends nature, the confounding of knowledge by science, with all those bitter and sinister elements that have entered into the human spirit, is our inescapable lot.

I have confessed to a growing suspicion of this entire modern mentality—of its "radical empiricism," of its too great readiness to abandon "prejudices," and of its essential perversity which would sacrifice intelligibility to what it calls "fact." But, above all, I am suspicious of that super-sophistication which is the essence of modernity itself.

I think we have a right to be suspicious of sophistication in all forms of the human spirit, whether in art, in politics, in religion, or philosophy. But, above all, we need to be continually on our guard against that form of sophistication which expresses itself in the conscious desire to express the *Zeit Geist*. If we are to be real, we must, of course express our own time but we do that best when we are least conscious of doing it. One finds everywhere, however, not so much the desire to apprehend and express *reality*, as to express our Time's *apprehension* of reality. The existing generation of philosophers are all time-servers in this sense. They all know how to draw the conclusions implied in the premises of their time, and whatever greatness they may have lies solely in the fact that they have been capable of taking these premises up into themselves and working with them. I cannot escape the conviction that such timeliness excludes the possibility of grasping whatever truth there is that may be timeless.

It is not merely that those who consciously seek to draw the consequences of the peculiar premises of their time are immediately and surely "dated." It is rather that those things which are thus dated tend, when once the times have changed, to take on the character of grotesques. That many of the distinctive creations of the modern spirit—in art, in religion, and in philosophy—are passing into the limbo of the "timely" seems undeniable. I cannot escape the feeling that many more are to follow. I have spoken of the strange things that we moderns permit ourselves to say. I have a strong feeling that after the strangeness has passed, after the hypnotic influence of novelty has worn off, we shall find that many of these curious things are nonsense also. Perhaps, as Spengler somewhat contemptuously asserts, he who tries to think outside the presuppositions of his time is a fool. It may be. But he may also be God's fool.

ON RIGHT AND GOOD: PRELIMINARY SURVEY

PROFESSOR W. G. DE BURGH

I

'THE object of the moral faculty,' wrote Butler in a classic passage of the *Dissertation on Virtue*, 'is actions, comprehending under that name active or practical principles those principles from which men would act if occasions or circumstances gave them power, and which, when fixed and habitual in any person, we call his character. It does not appear that brutes have the least reflex' (i.e. reflective) 'sense of actions, as distinguished from events, or that will and design, which constitute the very nature of action as such, are at all an object to their perception. But to ours they are and they are the object, and the only one, of the approving and disapproving faculty. Acting conduct, behaviour, abstracted from all regard to what is, in fact and event, the consequence of it, is itself the natural object of the moral discernment, as speculative truth and falsehood is of speculative reason.'

The position, here stated with his customary lucidity by Butler, that voluntary actions are the proper object of moral judgment, will be taken as the basis of the ensuing discussion. Our concern is with the predicates employed in such judgments to express our moral valuation of voluntary actions. The terms most commonly used for this purpose are (a) "Right," together with the allied expressions 'what ought to be done,' and "duty," and (b) "Good." Both these terms have obvious applications beyond the field of morals. We speak of the *right* date of an event in history or of the *right* solution of a mathematical problem, where there is no reference to action at all, and of *right* conduct, when the standard we judge by is non-moral, as when we talk of doing the *right* thing socially, or declare what is *right* in the eye of the law to be morally *wrong*. Good is still more naturally used with a non-moral reference. Moral goodness is but one specific form of goodness. Anything whatever that has value, whether utility-value as a means or intrinsic value as an end in itself, is wont to be called *good*. It is with the moral uses of the terms, however, and with their status in ethical theory, that we are here concerned. I want to consider the relation of right and good to one another as ideals of human conduct and the types of life which they respectively determine. In thinking of actions as

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right, is something that we ought to do, and in thinking of them as conducive to the attainment of good, are our measures of valuation the same or are they different? Can either of the two terms be explained by reference to the other, *e.g.* *right* as derivative from *good*? If this be not so, if each is independent of the other, what is it that distinguishes an action done for its intrinsic rightness from an action done for the sake of what is good? And are the two sorts of action equally entitled to be called moral? These questions are among the hardest of many hard questions in moral philosophy. I want to discuss them as simply as I can—for that is the purpose of these four articles, avoiding technical terminology and keeping close to ordinary moral experience. Ethics has the advantage over most other sciences that this close contact of theory with practice is always possible. The student can refer at every turn to what has happened in his own life, placing himself in the position of the man doing, rather than in that of the spectator of a deed already done. In reflecting on human acts, it is vital to think of them as acts rather than as facts. On the other hand, common moral experience is anything but easy to understand. Like all the ordinary things of life, it reveals on investigation an unexpected and baffling complexity. James Mill, the author of *The Analysis of the Human Mind*, the work that furnished the Utilitarian coterie with their psychology, claimed that he would make the mind of man "as plain as the road from Charing Cross to the Bank." He could do so only by drastic mutilation of the facts. We must beware, above all, of arbitrary simplifications, and of acquiescing in specious solutions on the strength of their popular appeal.

II

Let us consider the terms severally, starting from their employment in ordinary speech.

RIGHT—The primary implication of right is conformity to rule or law. This is the etymological meaning of the term, exemplified in the non-moral uses above referred to, as when we talk of legal rights or of keeping to the right (= prescribed) side of the road. In ethical judgments the reference is, of course, to moral rule or law. The term thus implies adaptation to a standard that is objective and universal. When we say of a man who responded efficiently to a practical situation that left no time for deliberation—*e.g.* finding on entering a room that the curtain is on fire—that he did the *right* thing, we imply, without any thought, it may be, of moral valuation, that he acted as *any* prudent person would have acted in like circum-

stances.¹ The term suggests, not merely or mainly adjustment to a situation of fact, but rather adjustment to a general pattern of effective behaviour. The savage who claimed to understand the difference between right and wrong, adding by way of evidence that "it is right for me to take my neighbour's wife, wrong for him to take mine," refuted his own claim by ignoring this implication of universality. The standard may have its source in external authority, like the rule of the road or the requirements of the Finance Act, or, as is always the case with *moral* right, in the moral consciousness of the agent. In the latter case we are entitled to speak of the intrinsic rightness of the action, for in moral volition we will it for its own sake as the embodiment of the Moral Law, not for any extrinsic end or good.²

Further, it is to actions, and to actions alone, that the term 'right' is properly applied. This is so even in its non-moral uses, we speak, for instance, of *doing* a sum right, or of *taking* the right path. In its moral use this reference to conduct is fundamental, though often veiled and indirect, as when we speak of right principles, right feelings, right motives, or in the familiar phrase of the Collect for Whit Sunday, of 'a right judgment in all things.' I cannot agree that right, as a moral predicate, is as applicable to emotions as to actions.³ It is more natural to talk of "good" and "bad" emotions,

¹ There is an important distinction between "right" = what is to be done, i.e. what is required for efficient handling of the situation and 'right' = what ought to be done, i.e. what the Moral Law demands in the situation. This distinction between the standards of efficiency and of morality is admirably expounded by Croce in his *Philosophy of the Practical*. It is, I think, slurred by John Grote in his analysis of the *faciendum* in ch. 11 of his *Treatise on the Moral Ideals* a work to which I am much indebted in these articles.

² I cannot agree with Dr Broad (*Journal of Philosophical Studies* vol. 11, No. 11 p. 295) that the only possible meaning of 'intrinsically right' is 'fitting to all situations.' In morally right acts the fittingness is to the Moral Law which is the form to which the right act supplies content. The Moral Law is willed in willing the act. Whether what we judge to be right is *really* right in the sense of being an adequate embodiment of the law, is another story. We shall see later that no act of finite will can be, in this sense *really* right.

³ See Moore *Journal of Philosophical Studies* pp. 316-23 and Broad, *loc. cit.* When Dr Moore says in regard to the Christian precept 'Love your enemies,' that to love certain people or to feel no anger against them, is a thing which it is quite impossible to attain directly by will, or perhaps ever to attain directly at all while 'your behaviour towards them is a matter within your own control' he seems to me to be seriously underrating the extent to which feelings are controllable by will. Control of thoughts and emotions constitutes four fifths of the moral life. I cannot accept his distinction between ideal rules which it *would* be my duty to fulfil if I were able and rules of duty which I *am* actually able to fulfil. There is a sense in which *no* duty can be perfectly fulfilled, and there is a sense in which all duties lie within our power. Otherwise, the term duty loses its meaning. Further, I shall try to show later

than of "right" and "wrong." True, we habitually speak of "right feeling," but when we do so we mean either a feeling that we ought to produce in ourselves (or that someone else ought to produce in himself) by an effort of will, i.e. by an inner act, which is as genuinely an act as one that receives overt expression, or else a feeling that prompts normally to right action. It is the former that we have usually in mind, we call a feeling wrong when we think of it as calling for suppression but bad when viewed *in abstracto* apart from its relation to moral action. What is really wrong is the indulgence. If we eliminate this relation and consider dispositions and feelings *per se* as stated of a man's being the terms good and bad are more appropriate. Moreover, right is usually applied to single acts or to particular trains of action taken in relative isolation from the general course of life. Doubtless this restriction must be interpreted with a certain latitude, for there is no such thing as a simple unitary action devoid of internal differentiation. Successive phases are always discernible even within a so-called instantaneous act. But some limitation is implied, we talk of a statesman adopting the right measures or the right policy on a definite practical issue, unemployment, say, or the government of India. When we think of a man's whole life or of his general conduct, we pronounce it not right but good. In this case, we adopt a theoretical attitude towards the life or conduct, viewing it from the standpoint of a spectator contemplating what is already done. When, on the other hand, we say right, we adopt a strictly practical attitude, placing ourselves in the position of the man doing or about to do. Such an one does not naturally ask himself, "what is it good for me to do in the given situation?" but "What is it right for me to do?" "What ought I to do?" "What is my duty?"

This distinction, between the attitudes of contemplation and of action, between *theoria* and *praxis*, will be seen as we go forward, to be of great importance for discriminating two different types of practical activity, directed severally towards the ideals of right and good. For the moment, it is enough to note that the significance of the three terms we have just used—right, ought, and duty—is wholly practical. In popular speech, they are used as equivalents. Philosophical reflection may detect differences between them, as when Kant limited ought and duty to beings possessed, like ourselves, of a sense-nature as well as of reason, but extended the idea of right or conformability to the Moral Law to include the

that acts cannot be judged morally apart from the temper of mind in which they are done (i.e. apart from the motive in one sense of that very ambiguous term). If this be so the act judged includes the feeling and judgments on acts alone or on feelings alone are abstract and as such defective moral judgments.

"holy" will of God. So, again, it has been pointed out that if we were ever in a position to choose between two equally right courses of action, it would be erroneous to say that one of the two ought to be followed rather than the other.¹ We may here ignore these finer distinctions and treat the three expressions, in their proper reference to moral actions as identical in meaning. Moral obligation is always obligation to *do* something in a certain way. The phrase 'This ought or ought not to be,' used of a state of things exciting approval or disapproval, is strictly inaccurate. It means always, as Professor Prichard² has insisted, that some agent ought or ought not to have *done* something, or that there is something which some agent ought to *do*. The three terms apply to action and, as will be seen later to actions done for the actions' sake. They are the watch words of any ethical system which, like Kant's, are based on will rather than on knowledge.

Lastly, right and its equivalents ought and duty involve the idea of self restraint. They imply subjectively, compulsion, discipline, conflict in the agent. However much in a particular case inclination may work on the side of duty, the Moral Law has the character of a command which we are under obligation to obey.³ The notion of duty, as John Grote puts it, "differs from that of virtue in its generally negative or prohibitive character, guarding against offence, rather than pointing to heights of aspiration." Conscience is not a stimulating but a restraining principle.⁴ Yet, as the same writer fully admits it furnishes a positive ideal for the moral life. It speaks with the authority of Reason, as a command vested with the universality of law, and as such independent of our personal feelings of like or dislike. It implies the sovereignty of Reason as a practical principle in the economy of the soul. This implication was drawn out long ago by Plato when he discussed the apparent paradox in our use of the terms 'self mastery' and 'bondage to self,' though in each case alike both the master and the servant lie within the self.⁵ It was Plato too, who recognized the positive element of aspiration and spontaneity within the life of Reason.⁶ The moral consciousness in fact generates its own desire, the desire to do our duty to obey the law of right. It implies moreover, that we are

¹ See Professor Moore's *Ethics* (Home University Library) p. 148 and *Journal of Philosophical Studies* pp. 312-313. A wrong act would of course always be identical with an act that ought not to be done but neither of the two equally right acts would be obligatory to the exclusion of the other. The possibility of two equally right acts is bound up with Professor Moore's doctrine that right means conduciveness to good. This view which is widely held will be considered in the second of these articles.

² See his article in *Mind* N.S. 81 p. 24.

³ *Treatise on the Moral Ideals* p. 147.

⁴ *Republic*, 430E-431B.

⁵ *Republic* 475B, 490AB, 581B.

free to choose between right and wrong. Thus, as the voice of Practical Reason, as provocative of desire, and as presupposing freedom of choice, the moral command, for all its coercive authority, expresses something intrinsic to our nature. It speaks from within, and is independent of external sanctions, human or divine. This is why a right action can be regarded as an end in itself as a 'good,' in which the moral desire finds satisfaction. We can here use the term 'moral goodness' with real justification. Yet right action involves—and this is the predominant feature in moral experience—a dualism in human nature, the presence of desires that are alien and recalcitrant to the law, the strife of self against self and the painful effort to secure the prerogative of the faculty that is rightfully regulative in the city of the soul. The flesh lusteth against the Spirit, the Spirit against the flesh for these are contrary one to the other." The dualism here presented in the language of religion is intrinsic also to moral experience and finds characteristic expression in the antithesis of 'right' and 'wrong.'

III

Good—'Good,' as already noted, can be asserted of anything and everything that has value, whether the value be intrinsic or instrumental. We talk of knowledge, of friendship, of natural beauty, of God as well as of moral excellence as good, and we talk also of economic goods, worldly goods, and with the implication of pleasure-value, of "having a good time." It is applied to persons and things as well as to actions, indeed, any entity or state of being regarded as valuable, may be pronounced good. The two main ideas associated with the term are those of end and of satisfaction of desire. At the beginning of the second book of the *Republic* Plato divides goods into three classes, those that are good merely as ends *e.g.* good pleasures, those that are good merely as means, *e.g.* medical treatment and those, such as health or wisdom, that are good alike as ends in themselves, and as means to other goods, and he awards the palm to the class last mentioned. How far the distinction of means and end is a help to the interpretation of human conduct will be considered presently. In any case, the end of a course of action is not necessarily a result supervening on the steps that minister to its attainment. But an end held in view, a purpose ideally envisaged, is implied in any action directed towards a good. That men do thus act for the sake of ends which are judged good, whether they be really good or not, is beyond question. The great ancient and mediæval thinkers, as well as many in modern times, believed that all human action was thus *sub ratione boni*, and consequently adopted the concept of the *summum bonum* as the governing principle of

ethical theory.¹ But we have seen reason to hold that acts can be willed for their intrinsic rightness as well as for the sake of ideal good. Now where an act is willed *sub ratione boni* in order say to gain knowledge or to relieve suffering it is willed for the sake not of the act itself but of the possession or enjoyment of the end. In this fruition action ceases and desire is quieted in satisfaction. *Theoria* (contemplation) dominates *praxis* (action) not only in the initial apprehension of the good that stirs desire but in the final fulfilment of desire in enjoyment of the apprehended good. Thus subjectively good implies satisfaction of desire. It has frequently as by Aristotle in antiquity been thus defined. Good however like right—as we shall see hereafter—is an ultimate and undefinable notion if we ask as to its meaning we can only say that it means good and nothing else.² That what is good satisfies desire states a relational property and excludes rather than implies the view that its goodness lies wholly in the satisfaction. Whether a good can be conceived as Professor Moore for instance thinks possible which is good apart from any consciousness of its goodness seems questionable but the issue lies beyond the scope of the present discussion.³ A good that is an end of human action must be a consciously chosen good. As such it is an end of rational choice and is therefore marked by objectivity and independence of personal inclination. The term private good if by private we mean exclusive to the individual desiring it involves as Professor Moore has shown a contradiction in terms.⁴ It follows that the pleasure of the moment cannot properly be termed a good. Indeed it is very doubtful whether the desire for pleasure is ever desire for good. If our own pleasure be the aim it is a private end that is sought if it be the general pleasure the desire is erroneously spoken of as desire for pleasure. To desire the pleasure of others is no more to desire pleasure than to desire that others shall be rich is to desire riches.⁵ In the case of good the distinction between our own and that of others cannot arise. The good is at once objective and universal and an end towards which we are spontaneously directed by our nature. This aspect of spontaneity of harmonious self realization dominates the life governed by the idea of good as discipline and conflict dominate the life of duty. The fact that the former entails sacrifice and painful effort often may be at a heavier cost than the latter involves no contradiction for the sacrifices are ancillary to the fruition being prompted and sustained throughout by the vision of good. Here again *theoria*

Aristotle *Metaph* 994 *Eth Nic* 7 2 1094a (Ross *Select ons* pp 51 219)

¹ See Moore *Principia Ethica* ch 1

² *Principia Ethica* pp 83-84

⁴ *Ib id* pp 98-99

⁵ It implies of course that pleasure or riches are regarded as possessed of value

ON RIGHT AND GOOD

has the primacy over *praxis* the ideal vision over the practical process of its attainment

What then do we mean when we speak as we often do of *moral* goodness? The term is applied to actions and yet more frequently to motives dispositions characters We have seen already that when actions are called good they are regarded not in the actual doing but as *facts accomplished* as things done The standpoint is that of a spectator or of the agent himself contemplating the action as an event of the past Thus regarded right acts are pronounced good either in themselves or as contributory to a good end When a right act is judged good in itself we mean that it has intrinsic value as a factor in the general good of the universe This judgment is subsequent to and distinct from the original judgment of rightness The act is pronounced good because it is right not right because it is good The judgment of goodness both here and when we judge acts done for the sake of good ends such as truth or beauty or the service of our fellows to be good is theoretical rather than practical Secondly in applying good to characters and motives the practical reference recedes farther into the background The phrase *moral* goodness is thus far a misnomer for it conceals the abstraction from what alone is strictly entitled to be called moral In the concrete moral life character cannot be divorced from its expression in conduct As Aristotle showed long ago it is formed solely by conduct and manifested in conduct alone Motives emotions dispositions exist only in relation to possible acts of will It is natural and for practical purposes entirely legitimate to abstract from the living actuality and to think of the standing features of a man's character as given fact furnishing materials and opportunity for subsequent embodiment in action Aristotle again has remarked how we may call a man a good orator or surgeon though at the time he is asleep or on a journey We know that he has the capacity to speak or to operate should occasion call So likewise with the man of moral virtue though the virtue be not actually in exercise But the habitual exercise is none the less presupposed if the words are to retain their meaning Potentiality is relative to actuality not *vice versa* The capacity which has itself been fashioned by *doing* is either a capacity to do or none existent

If our virtues
Did not go forth of us 'twere all alike
As if we had them not Spirits are not finely touch'd
But to fine issues

IV

Our survey of the meanings of right and good points clearly to the following conclusion Human actions are open to two different

* This point will be discussed in detail in the next article

types of valuation, according as they are done for their intrinsic rightness or for the sake of an end that is good. That actions done for their intrinsic rightness are *moral* actions is beyond question. "Right" and 'wrong' (with their equivalents 'what ought or ought not to be done', 'duty', and 'violation of duty') are predicates which are strictly appropriate to moral judgments. When we judge actions as good or bad, we adopt a theoretical standpoint, abstracting from the actual moral situations. We regard the act no longer as act but as fact. A further degree of abstraction is involved when we leave actions on one side, and pronounce dispositions and feelings good or bad regarding them again theoretically, as given facts of human nature. What then about the second class of good actions, viz. actions done for a good end? The point here is that we quit the moral field for one that calls for a distinct type of valuation. Acts of this order collectively present a clear contrast to acts done for duty's sake. The intention is directed upon various objects—be they things, persons, or states of being—other than the moral quality of the act itself. It is the goodness of these objects that justifies our approval alike of the desires which they satisfy and of the activities that mediate the satisfaction. It is paradoxical to confuse the two types of action and valuation by merging them under the common rubric 'moral', into one. The artist or the researcher in quest of beauty or scientific truth, the man who from pity relieves a sufferer or the mother who sacrifices health and pleasure for her child habitually act thus from love, without thought of moral obligation. At most it is in the background, ready to spring into consciousness as a stimulus when spontaneity flags or as a check to the claims of the desire for excessive gratification. Thus moral effort in one group of activities issues in the formation of principles which are regulative of the natural impulses of our nature. The two types of conduct are not 'cut off one from the other by a hatchet'. But over a large part of human life love of the good is the guiding principle, unencumbered by explicit recognition of the moral imperative. When the artist under a strong temptation to pander to popular taste wills from sense of duty to resist the inclination for notoriety or gain, and to fulfil his creation as an artist, his art assuredly has *moral* worth. But at other moments, when he is working from pure love of his art unhindered by contrary inclination, the value of his activity—we are not speaking of the value of the aesthetic product, but of his activity in the production—is of quite another kind. It may be higher, or it may not, but certainly it is not the same. Such activity, again, may at a given time be morally blameworthy, however valuable the object of his desire. It may be the artist's duty to forgo his act in order to help a friend or fight in the service of his country. Thus the facts of common experience, as well as the

usages of speech, bear out the distinction of types of valuation. Both ideals, rightness and goodness, exercise some degree of influence in the life of all good men, yet it is not hard to distinguish those over whom the one rather than the other wields a dominant force. We all know those whose life is a continual struggle against rebellious passions, in whose ears is ever sounding the stern dictate of the Moral Law—authoritative and uncompromising in its austerity, "a light to guide, a rod to check the erring and reprove." St. Paul, Augustine, Luther with a host of lesser names in the roll of history, occur readily to mind. On the other side there are those whose natures turn in free desire towards the good as the sunflower turns towards the sun with their gaze fixed unswervingly on the ideal goal of their endeavour. Their motive is love, untroubled by any thought of constraint or law.

There are who ask not if thine eye
Be on them who in love and truth,
Where no misgiving is rely
Upon the genial sense of youth
Glad hearts! without reproach or blot,
Who do thy work and know it not!

Wordsworth recalls how in childhood and youth he had been among their number, though when he wrote these lines the stormy experiences of his early manhood had stirred into full consciousness the "stern daughter of the voice of God" to "chasten and subdue" the wayward impulses of his nature. Shelley was of their company through all his short span of life. Such, too, were the *schöne seelen*, cherished by the visionaries of the era of German romanticism, and immortalized by Goethe in the pages of *Wilhelm Meister*. The divergence of type is illustrated also by the facts of evil conduct. It is possible to act wrongly despite knowledge of the right, to disobey the command of duty through weakness of will and lack of self control. It is possible, again, to sin from lack of knowledge, from defective or distorted vision. Men mistake the apparent good for the real, and, in Plato's expressive phrase, do what they like, not what they will. For they acted *sub ratione boni*, and their real will was of the good. Is it not obvious that the key to the difference of type, alike of good and evil action, lies in the distinction between *theoria* and *praxis*? There is action inspired by vision, be it of truth or beauty or the happiness of those we love or, in the religious life, of God, and there is action inspired by obligation to the act itself. We suggest that each of these ideals is independent and autonomous. The suggestion wears an air of paradox, for it is alien to the historic tradition of moral philosophy. The ideal of duty for duty's sake has been slow in coming

into its own. For the thinkers of ancient Greece the theoretic life held an unquestioned primacy over the practical. How could it have been otherwise, when they were themselves devoted to *theôria*, and to *theoria* of an Absolute Reality which was also the Absolute Good? That *praxis* is for the sake of *theôria*, that the vision of the Good is at once the Alpha and the Omega, the precondition and the final goal of human conduct, that all action, right or wrong, is *sub ratione boni* and that moral evil, when probed to its source, is involuntary ignorance—these convictions, though stated in divers ways and with sundry reservations, are deeply imbedded in Greek moral systems. Even in Stoicism the commands of the moral law are instrumental to the attainment of philosophic wisdom. When the Greeks spoke of the life of *praxis*, they had in mind not the life of devotion to duty for duty's sake, but the pursuit of fame or power, in other words of an inferior good. With the advent of Christianity, the deepening of the sense of the radical evil in man's nature, of the resulting conflict of principles within the soul, and of the divine sanction that attached to moral obligations, ensured a fuller recognition for the claims of duty. Nevertheless the theoretic ideal maintained its sovereignty unimpaired in the Christian scheme of life. As between Mary and Martha it was Mary, the type of the life of contemplation who had chosen the better part. The *summum bonum* was God, the source of all being and value, and felicity, the goal of man's endeavour, lay in the otherworldly function of God's presence. Discipline to right action *in viâ* was but the preparation for the beatific vision *in patriâ*. The theoretic ideal, thus enthroned by the antique and Christian tradition, prevailed throughout the epochs of the Renaissance and the *Aufklärung*, and is still a dominant power in the philosophy of to-day. It was not till late in the eighteenth century that a rival claimant appeared upon the scene. The ideal of duty for duty's sake first won explicit recognition in the ethics of Immanuel Kant.

Our endeavour in these papers is to give their due to both ideals, the theoretical and the practical, as autonomous measures of human conduct. Accepting in principle the Kantian interpretation of the moral life, we set beside it, as possessed of intrinsic, though not of moral value the life directed towards ideal good. But before we go further, two questions call for consideration. (1) Can right action be defined in terms of good, as that which is conducive to good? (2) Can an act be right, unless it is done for the rightness' sake? In other words, Can we sever judgment on the motive of the agent from judgment on the act? These two questions will be discussed in the ensuing article.

(To be continued)

SCIENCE AND VALUE

PROFESSOR L. J. RUSSELL

I

In previous articles I have been concerned with various aspects of science and I have now to endeavour to look at scientific activity as a whole and to view it in its relation to other activities of man. I have been trying to avoid those pleasant sweeping generalizations which strike the imagination and which are so easy to write and to read about such as that science is our only avenue to truth or that science is abstract and tells us nothing about the concrete nature of things or that knowledge of particular facts is the object of science generalizations being merely a means thereto or that generalizations are the object of science investigation of particular facts being merely a means thereto all of which can be defended by a rich array of arguments none of which can finally stand confrontation with the actual nature of scientific activity as a whole. The situation seems to be much more complicated than any such generalizations would suggest.

The view which seems to have caught the popular imagination at the present time is the view that science is abstract merely descriptive of events from the outside and that therefore we must look elsewhere for an insight into the true nature of cosmic process. There are various reasons which can be plausibly given for the success of this view. In the nineteenth century science seemed to be getting closer and closer to the ultimate units of which things were made the general lines of the ground plan of the universe seemed to be pretty patent and it seemed as if only the details of the whole with perhaps a few modifications in the account of the ground plan remained to be made out. Again, the prospects for the human race under the guidance of science and invention seemed rosy. Soon we should all have more conveniences better health and a mastery over the secrets of nature. But things did not work out in this way either in the realm of theory or in that of practice. The farther men penetrated into the depths of nature the more puzzling her secrets became. The use of science and invention did not lead to happiness but to the destruction both of man and of the country side. The prospective benefactor turned out not to be so desirable a guide after all. And in consequence the opportunity was welcomed for putting him in his proper place. The fine arts poetry and religion began to breathe more freely and to bestir themselves to tidy up

the mess Philosophy, which had long been objecting to the extravagant claims of science, now found its objections sustained even by scientists themselves

But in truth this plausible account of the reasons for the popular currency of the view that science is merely descriptive does not represent the whole situation in proper perspective. The whole situation it must be repeated, is much more complex. At the same time something like the above account represents the popular view of the situation. And we can put the popular view somewhat as follows. If science is merely abstract and descriptive then it is our servant and we can go ahead and try to strengthen and deepen the spiritual life of mankind by taking a wider view. If science gives the ultimate nature of reality then it is our master, and spiritual life is in danger. Not that everybody holds this view. Everybody never does hold the popular view. But it is very widespread.

II

What I find objectionable in this view is the antithesis on which it rests. Either science gives the ultimate nature of reality or it is merely abstract and descriptive. This antithesis seems to rest on a more fundamental antithesis between the method of analysis as a means of exploring nature and the method of intuition as a means of seeing Reality in its wholeness. The method of analysis rests on the assumption that any complex whole is built up of parts which are themselves either complex, and so built up of parts, or simple. Thus in the end there are certain ultimate simple constituents in the universe with their own basic properties. These basic properties they retain, however they are combined to form complex wholes, and the properties of the complex wholes depend on the properties of their simple constituents. The method of intuition denies that complex wholes can truly be regarded as built up of simple constituents and insists rather that the nature of a whole dominates its constituents imposing on any constituents a character which belongs to it only in its place in the whole so that except in so far as you begin to grasp the character of the whole as such, you cannot hope to begin to understand the nature of its constituents. If, then, you begin by separating from the wider universe any apparent whole (such as physical nature abstracted from human activity) you are falsifying its nature, and your analysis of it into its constituent elements are merely a prolongation of your original falsification, which may perhaps be useful for certain practical purposes but cannot possibly be true. The method of intuition then insists that truth is lacking to any view which does not reach up to the ultimate whole

of Reality The method of analysis insists that truth is to be found only when it is based on the ultimate elements of things

Such wholesale contrasts seem to me to be too sharp What if there should prove to be no separable ultimate elements of things, and no whole of Reality which imposes a character on all the partial wholes within it? And may there not be two main kinds of complex to be met with one of which takes its character from its parts, one of which gives its character to its parts and any number of intermediate grades of complex lying between these two main kinds? If there are will it not be the business of science to note and study them each in the way appropriate to it? The doctrine of emergent evolution touched on in a previous article, suggests something like this It suggests e.g., that atoms can enter into atomic complexes which are not yet molecular, and whose properties depend on the properties of the constituent atoms but that they can also enter into molecular complexes, whose properties are other than anything deducible from the properties of the constituent atoms and so in general Again, every complex is actually to be found in a wider setting May it not be that as regards certain characteristics of a complex either some aspects or the whole of this setting can be neglected, while in regard to other characteristics some aspects of the setting must be taken into account? Our view of the principle of causality, and of the general nature of abstraction, involves this If any of these possibilities should be actually met with, the sharp antithesis between the method of analysis and the method of intuition falls, and science cannot be described as following exclusively the method of analysis, or as false abstraction because it does not use the method of intuition Its task will be that of studying its subject-matter, whatever it may be, by methods appropriate to that subject-matter That such a description of the task of science tends to blur the sharp edges of the concept of science is true But too sharply defined a concept may be misleading Is science to be restricted to study based on quantitative measurement? Is a laboratory bench, with instruments of precision to be regarded as essential to it? If a musician notes that certain effects are obtained in a piece of music by repetition, or inversion, or variation of certain musical phrases, or a painter notes the way in which certain rhythmic lines aid in knitting the various parts of a picture into a unity, is he using scientific method? Or is his study only to be described as scientific if he proceeds to generalize, and then to abstract, and by setting up laboratory apparatus to study the effects of various simplified musical or linear patterns? For myself, I should admit all these stages to the name of scientific, and agree that they are all valuable, indeed, indispensable, if used rightly and within proper limits, though I should demur to the suggestion that an investigator without

musical or pictorial sense could, with the aid of the laboratory, penetrate farther into æsthetic quality than the musician or painter could who was ignorant of the laboratory. Scientific study in such a field would involve both studies and both types of ability, and it would not be possible to say beforehand what the value of the abstract simplifications of the laboratory would be. What is true here is true elsewhere: analysis serves some purposes, but not all, in some cases the whole imposes its character on its parts, but not in all. Appropriate study of a whole is in general a mixture of both.

One might indeed question whether it is really in the end possible to describe any act of thought in terms of either intuition or analysis alone: for even where a complex is being dealt with which can be described in terms of its parts, an insight into the fact that this is so is necessary to complete the analysis, and where the complex gives its character to the parts this can only be decided by showing the insufficiency of analysis to describe the whole in terms of the parts. But leaving this aside and allowing that the two activities can be distinguished, it seems clear that scientific study in general uses both.

III

If these considerations are admitted to be sound then it will follow that scientific study does help us to an insight into the nature of things, even though it is unable to point to any ultimate simple elements whose natures determine the whole cosmic process, and even though it does not carry us up to one single whole which determines the nature of all its parts. Certain other consequences will follow. Science will still endeavour to pursue its researches into the elements of things, for it will never be possible to say with finality what complexes are such as to impose their character on the nature of their parts, and what complexes can be explained by the natures of their parts, and it will always be important for the scientist to seek to describe complexes as arising out of their parts, even though he must keep in view the possibility that there are many complexes for which this cannot be done. He must, that is, make it a rule of method to seek always the determining constituents within a complex without asserting as true the principle that all complexes are determined by their constituents. Or in other words he must seek always to verify the principle, *Nihil est in toto quod non prius in partibus*—there is nothing in any whole which was not to be found already in its parts—which can be described as the principle of determinism, without affirming it as the principle which holds of all complexes. But all this will represent only one side or aspect of his investigations, these researches are a means to the fuller understanding of complexes, and where he finds complexes which he has

not so far succeeded in deriving from their constituents he must at least provisionally endeavour to make out the way in which the organization of the constituents modifies the characteristics they have apart from this organization. A combination of openmindedness and of research directed toward the making out of detail will thus characterize the scientific activity. It is the fuller recognition of this on the part of scientists themselves that has led many of them to give up the claim of science to penetrate to the nature of things but it does not seem either necessary or desirable for science to give up this claim in its entirety. It is not necessary to suppose that there are in the universe only two sharply contrasted kinds of complex, viz., those whose wholes determine the nature of their parts, and those which are determined by the natures of their parts. There is no reason why there should not be wholes which in certain respects are determined by the natures of their parts and in certain respects determine the nature of their parts. If we denominate the one kind of relation as that of determinism—given the parts the whole follows—and the other kind of relation—the whole imposes new characters on its parts—as creativity, then we can suggest that determinism and creativity are features to be found mingled in varying degrees in things. Science will have to do with both.

IV

It is at this point that we can introduce the conception of value into the discussion. We meet this conception most clearly in conscious activity. The process by which a conscious being sets out to produce a particular complex with a certain nature belonging to it as a whole can be described as a process of realization of value. To describe the process in this way implies that a conscious being is capable of acting as a whole, and is not merely determined in his actions by the natures of the parts of which he is composed. It implies that the complex he produces requires his activity for the particular groupings and juxtapositions of the materials he uses, though it does not imply that the complex he produces must itself necessarily be one whose nature as a whole determines the natures of its parts. For the effective conscious realization of value it is necessary that he should know how parts and wholes are related in the particular field of his activity. He can use both deterministic and creative materials (if the expression be permitted) for his purpose. But he must know the characteristics of his materials if his activity is to be in the highest degree effective. In other words, scientific knowledge, as we have described it, is essential for the effective realization of value.

It should be noted that for this purpose it is not necessary to have penetrated to any ultimate elements of things. It is not necessary

to have seen an ultimate Whole of Reality as determining the nature of all things within it. It is necessary, rather, to be able to make relative isolation of certain complex materials within the universe, and to be able to foresee what will result when these materials are brought together in certain ways. And if science can give this foresight it is giving at least the kind of knowledge needed for the realization of value. But it is just in so far as science does put us into touch with the natures of things (in this sense) that it is able to aid conscious purpose.

I do not wish to enter into the questions of what is meant by value, whether value is something independent of conscious appreciation, and so on. It is enough for the present purpose to note that conscious beings do recognize values, and do endeavour to realize them, that their activity depends on the kind of values they endeavour to realize and on the intimacy of their knowledge of the materials through which they endeavour to realize their values. Again, a man's values are not entirely determined by his scientific knowledge, though they may be to a large extent modified by it, for the perception that one kind of situation is easily realizable, while another kind is hardly or perhaps not at all realizable, does often tend to direct attention to the one situation and divert it from the other, even though in the absence of any such perception the latter situation might be regarded as the more valuable. It is in this way that scientific knowledge may become dangerous to the higher values, we grasp what is within our reach and mechanize life instead of spiritualizing it. But blame should not be laid on science for this. It is we who are to blame for the lower use of what can become a higher instrument. Indeed to blame science is to darken insight. Those who would wish to turn away from science altogether, in the interest of spiritual life, seem to me to be guilty of some such blindness. I would suggest that it is only by the right use of scientific knowledge that in the last resort the highest spiritual values can be realized.

V

Knowledge is indeed itself a value, and the endeavour to make knowledge as wide and as detailed as possible is itself an endeavour to realize value. It requires long and continuous effort of self-discipline and of self-abnegation. The investigator must in the first place limit himself to a narrow field, must become a specialist in this field, if he is to succeed in his efforts, and this is no light matter. The desire for knowledge is in itself unlimited, and it is often only with great reluctance that the investigator can bring himself to renounce width for depth and precision. He must again impose on himself the strictest discipline, keeping watch lest his desire for conclusions outstrip his

insight. He must be ready to communicate what he has already discovered to other investigators in the same field, regardless of the fact that they may be enabled to make more imposing discoveries, win more applause. He must keep his imagination on the stretch, while at the same time holding it well in hand. His emotions he must bend to his purpose of gaining knowledge. And it will be found, I think, that in general this self-discipline is a moral discipline which affects his whole life. It is at any rate a discipline of a sort which is essential, however it be brought about, for the realization of any spiritual values of whatever kind. We should do well, when we are tempted to blame science for the mechanization of life, to study the scientist himself at work, and see the kind of life he lives in his pursuit of knowledge. It is the plucking of the fruit of the tree of knowledge without the toil needed for the production of the fruit, that is responsible for the lowering of values.

The kind of knowledge I have described is itself a value, but it does not give rise to values distinct from itself, however much it may affect our attitude toward other values. Plato makes Socrates insist on this in the dialogue called the *Charmides*. The wisdom of which he is speaking is defined differently from the knowledge of which we have spoken, though in effect he is referring to the same thing. "Let us suppose," he says, "that wisdom is such as we are now defining, and that she has absolute sway over us, then each action will be done according to the arts or sciences, and no one professing to be a pilot when he is not, or any physician or general, or any one else pretending to know matters of which he is ignorant, will deceive or elude us, our health will be improved, our safety at sea, and also in battle, will be assured, our coats and shoes, and all other instruments and implements, will be well made, because the workmen will be good and true. Aye, and if you please, you may suppose that prophecy, which is the knowledge of the future, will be under the control of wisdom, and that she will deter deceivers and set up the true prophet in their place as the revealer of the future. Now I quite agree that mankind, thus provided, would live and act according to knowledge, for wisdom would watch and prevent ignorance from intruding on us. But we have not as yet discovered why, because we act according to knowledge, we act well and are happy, my dear Critias."

Critias admits that what is needed over and above this knowledge is the knowledge of good and evil, whereupon Socrates replies:

'Monster! you have been carrying me round in a circle, and all this time hiding from me the fact that the life according to knowledge is not that which makes men act rightly and be happy, nor all the sciences together, but one science only, that of good and evil. For, let me ask you, Critias, whether, if you take away this, medicine

will not equally give health and shoemaking equally produce shoes and the art of the weaver clothes?—whether the art of the pilot will not equally save our lives at sea and the art of the general in war?

Quite so

And yet my dear Critias none of these things will be well or beneficially done if the science of the good be wanting¹

VI

Plato was himself anxious to insist that though knowledge of the sciences is not itself knowledge of good and evil it is yet a stepping stone and indeed an essential stepping stone to that knowledge. Whether we follow him in this or not it is a mistake to turn away altogether from science and seek our spiritual values in entire independence of it and equally a mistake to regard science as itself the only or the dominating value. Both these mistakes are frequently made. But insight into æsthetic quality for example is not a matter of momentary vision but involves a lifetime's active search just as much as does insight into truth —

This is that Lady Beauty in whose praise
Thy voice and hand shake still—long known to thee
By flying hair and fluttering hem—the beat
Following her daily of thy heart and feet
How passionately and irretrievably
In what fond flight how many ways and days!²

It cannot be separated from the effort to produce works of art and again to enter as fully as possible into the significance of works of art produced by others. And it is folly here to despise the attempt to enter into the detail of a work of art to see the way in which the parts contribute to the whole and are transfigured by their place in the whole. Whether you are so constituted as to be able to see this without any kind of conscious exploration—that is to say by a kind of intuition—or whether you have to make conscious effort to see it is not here to the purpose. However you do it your grasp of the significance of the work of art just as much as your ability to produce works of art demands a grasp of technique. It demands in short knowledge of detail held in due subordination to grasp of the whole. *This is none the less true although there are in fact many seekers after æsthetic value who plod toilsomely on the pedestrian path of technique without vision.* They do what they can and their shortcomings do not warrant a neglect of technique. Nor is their contribution useless. They are the labourers who bring stones for the paving of roads.

The same is true of the attempt at realization of good. Even if

¹ *Charmides* Tr. Jowett 173-4

² Rossetti *Sonnets for Pictures* S bylla Palmifera

you retire into a cloister and seek your good by way of ecstatic vision you will not succeed without a lifetime's active search. And even here you will find technique as important as elsewhere and just as liable to get in the way of your vision. The detail you will here have to master is the detail of your own complex nature. Know thyself will become even more essential if you are seeking heaven by way of the cloister than if you are seeking it by way of activity in the world of men. By technique I mean knowledge of wholes in their detail and knowledge of how to produce new wholes by modification of detail. It is science in its practical aspect. And I suggest that it is essential for the realization of value in any field whatever—essential and dangerous. It is the devil on whose shoulders you have to climb if you would gain the heights of heaven.

If you seek the realization of good in the world of man the importance of detailed knowledge of human nature and of how to move men becomes more obvious still. The great moral reformers have possessed this knowledge in a high degree apparently without seeking for it. Men of lesser insight have to seek for it with toil. Just so in the world of pure science the man of genius often sees into detail in flashes of insight which the less gifted have to verify by slow process. The slow process is however essential to the forward advance of mankind. And if all men are to be put in the way of living the good life it is essential that knowledge of human nature as well as of physical nature should be both deep and widespread. The task is one not merely of insight into ends but of detailed knowledge of means and of ability to bring about appropriate types of organization. I do not forget Carlyle's jibe at the English faith in the machinery of organization in the effort to realize spiritual ends: organization is in this field what technique is in the field of art—at once the devil and the essential helper.

VII

I hold then that science is itself a value which men do seek to realize *and that it is not itself merely instrumental to the realization of values other than itself*—that while it does not furnish theoretically rounded off knowledge in the sense of either penetrating to the ultimate elements of things or of reaching up to the ultimate whole of things it does nevertheless furnish knowledge adequate in its kind that this kind of knowledge while not in itself sufficient to lead to insight into values other than science is yet necessary for full insight into other values and for their realization—necessary however dangerous it may be. Science provides instruments which can be used blindly when the vision needed to guide them is lost: if we use its instruments we endanger our vision but if because of this we turn aside from its instruments we endanger our vision still more.

PHILOSOPHICAL SURVEY

PHILOSOPHY IN ITALY

SHAFTESBURY is one of those philosophers who are usually placed more or less in the margin of the history of thought because an insufficient idea of system and a certain looseness of conception make it difficult to grasp their ideas and to classify them. Yet when you are able to break down or to dismiss the mental figures in which you have been accustomed to consider the historical succession of doctrines and are prepared to revive their words with an open mind not only do they give you in their originality more than you had hoped but also they help to render your representation of intellectual life as a whole more complex and more harmonious in its development. Bandini¹ an Italian scholar in making a zealous study of Shaftesbury, has succeeded in drawing out his rich personality, and at the same time in explaining the importance of his contribution to the *perennis philosophia*. We could hardly succeed in understanding the modern English mind in its genesis if we concentrated our attention exclusively on those empiristic currents which, although they preponderate in Anglo-Saxon speculation, do not contain all its originality. There is a deep fount of romance in the spirit of this people which wells up from time to time and the drier and harder the surface earth the more strongly it gushes forth. Shaftesbury is just such a fount, isolated and inexplicable to all outward appearances, but far otherwise for anyone who knows how to penetrate below the surface. In his essay Bandini, while emphasizing the contrast between the philosophy of moral enthusiasm and feeling and the contemporaneous doctrines of Hobbes and Locke, examines with equal penetration the way in which the former becomes reattached to English speculative tradition and by what means it contributes in its turn to furnishing new trends in philosophy. The idea of feeling as an autonomous spiritual activity side by side with the intellect and will, largely prepared by the European thought of the seventeenth century, but always in some way suffocated by the rationalism of the new era finds its first decided and uncompromising assertor in Shaftesbury. From him it was diffused throughout Europe, becoming a part of the common philosophical thought, especially in the second half of the eighteenth century. This was done through Rousseau and the French *sensibilité* on the one hand and more systematically on the other hand through German Illuminism (the Illuminism of Mendelssohn and Tetens in particular, with the new classification of faculties enunciated by them and later authoritatively confirmed by Kant's acceptance), the two movements finally converging to feed the flame of romanticism.

A more modest reflexion of this current of ideas is found in the so-called Scottish school, which, not uninfluenced by Shaftesbury, has officially added a "moral sense" to the list of the many other senses with which it has peopled the life of the mind. Touching this subject, Bandini cautiously warns us that if it was really Shaftesbury who devised the term "moral sense" he certainly never meant it to denote the idea of a quasi automatic product of morality following the fallacious analogy of the external senses. It is not just a sense, it is an activity of knowing peculiar to itself, a knowing sense we might say a rational sense, but on the other hand, it is not reason, or not reason pure and

¹ L. BANDINI, *Shaftesbury (Etica e religione. La morale del sentimento)*, Bari, Laterza, 1930

simple, because to the recognition of reason is joined a spontaneous adhesion of the entire mind which is feeling and will. Finally, as Bandini observes, it contains the affirmation, still veined with naturalism (after the style of the Renaissance), of moral autonomy.

The author gives a very subtle analysis of the meaning of enthusiasm, which concludes Shaftesbury's ethics expressed so vibrantly in the letter to Lord Somers. It is the partisan of the morality of enthusiasm who strikes with the keenest shifts of his sarcasm a certain turbid enthusiasm which in its fundamental substance is no more than a re-bubbling of blind passions, and which gives place to the two most serious maladies of the mind: fanaticism and superstition. From this one can draw the assurance that the ethics of feeling at its pure source is very different from the irrationalism which under the same banner *has raged and rages still in the works of decadents*, it does not develop either outside or against reason but with its flame revives a work with which reason itself for its own part concurs. Enthusiasm is something so abounding and so fervent that it flies from any mutilation of the life of the mind: it is not the residuum of a contrast of activities but the fruit of a spontaneous co-operation which Shaftesbury intellectualistically, according to the fashion of the times but with a deeper intuition, styles the goal of moral perfection.

In a collection of essays¹ on the history of philosophy A. Baratono traces the first lines of his realistic and dualistic conception of the problems of epistemology and ethics, contrasted with the idealism prevalent in the Italian schools. His historical and critical essays deal with the doctrines of Spinoza, Locke, Berkeley, Kant, Marx, Gentile, and Croce: these do not pretend to complete an exhaustive exploration of the various systems quoted, only to make marginal notes in each of them, uniting them with one guiding thread. To the idealistic attempt to restrict all knowledge within the activity of thought, Baratono opposes his realistic theory that the content of knowledge is not exhausted and is not resolved in the act of knowing, that is to say that in the face of thought it vindicates an independent existence and a *presentative* function of its own distinct from the *representative* function of the knowing subject. The author seeks to confirm this point of view by his critical researches in the great philosophies of the past. In this respect there is particular interest in his interpretation of the philosophy of Berkeley, which according to general opinion ought more than any other to be contrasted with a realistic view of the problems of knowing. Baratono however, disputes the legitimacy of defining Berkeley's philosophy as subjective idealism, the equivalence of *esse* and *percipi* which it establishes, and which would appear to confirm this designation. On the other hand understands an objectivistic foundation of *ideas*, the objective validity of whose content reposes on divinity. Baratono easily succeeds in tracing out analogous dualistic motives in the philosophies of Kant and Locke, which he tries to adapt to one another, thus giving a critical intonation to the actual doctrine. In other words, the antithesis between the subject and object, between the act and the content of knowing, between the representation and presentation, is understood by him critically as an epistemological and not a metaphysical antithesis, permitting of synthetic unity.

Apart from the value of the historical interpretations of the various philosophical systems which have been mentioned, there is nothing really new in Baratono's book compared with the copious realistic literature already noted,

¹ A. BARATONO, *Filosofia in margine*, Milano, 1930.

except the attempt at an æsthetic conception of thought conducted on the lines of the Kantian criticism of Judgment, and pivoted on the reflecting judgment of Kant himself which, however, the author strives to liberate from the state of subjection in which Kant had placed it with regard to the so-called constitutive and determining judgment, on which the natural sciences are founded

In a book on the relations between philosophy and Christian apologetics Castelli¹ writes polemics against the popular apologetic trend which claims to assure a position for the supernatural and for miracles of religion between the lacunæ of scientific thought. It is a genre of literature widely diffused in the devout circles of Catholicism all based on medical and psychiatric reports understood to document the miracles of the Madonna of Lourdes or of Pompeii. It reveals a mentality greatly akin to that of the wizard of whom Lange speaks in his *History of Materialism*, who claimed to see the devil in the Leyden jar. For this apologetic Castelli would wish to substitute another one more shrewd—I would almost say cunning—which should follow the stream of philosophical movement and carry out a real critical and scientific work. He himself gives an essay on it borrowing the actual philosophical categories from the doctrine of Varsco. It cannot be denied that his book is ingenious, and that at times his critique hits the mark and yet fundamentally, however it may be purified and refined is not his problem akin to that of the popular apologetic.² A philosophical and scientific critique having its Pillars of Hercules in the decrees of the Council of Trent or of the Vatican is at its best always a critique cut short by an element extraneous to the thought which inspires it. We can without difficulty concede to Castelli that secular philosophies do not respond to all not even to most, of the greatest problems, we can say with Shakespeare that there are more things in heaven and earth than are dreamt of in *our* philosophy but we do not think it worthy of Christianity to assure it a precarious life in the margin of our science, with the risk of diminishing its supernatural patrimony as our knowledge increases. It seems to me that the antithesis between the philosophical spirit and the apologetic spirit consists in the actual trend of research rather than in the respective results: the one assumes as its strength the actual strength of thought and proceeds along a road which has not been traced before, running all the risks of the undertaking but also enjoying the joys of triumph, the value of the other lies in a more or less spurious thought for which the road and the goal are already determined. A single example will serve. Castelli, accepting Christian dogmatics says that the mysteries which it consecrates are "not to darken but to illuminate the road to be traversed. In mystery there are aspects which deep searching reflection will partially clear" (p. 48). Now it is undeniable that the speculative thought of an Augustine or a Thomas Aquinas has cleared many philosophical aspects of the dogma of the Trinity, but at the basis of what philosophical categories can one determine beforehand that the enlightenment should be "partial" even that the result should be enlightenment rather than falsehood?

A book by Giovanni Papini³ has given a timely beginning in Italy to the writings commemorating the fifteenth centenary of the death of Augustine. The name of the author, which at other times has entered the publicist arena with unrestrained books of advanced and revolutionary style, might make

¹ E. CASTELLI, *Filosofia e apologetica*, Roma, Ed. Signorelli, 1929.

² G. PAPINI, *Sant'Agostino*, Firenze, Vallecchi, 1930.

those who are ignorant of Signore Papini's cases of conscience suspect the critical and impartial character of the book in question. It would be as well to warn people instead that we are dealing with a panegyric after the style of those much used in bigoted Catholic circles to celebrate the life, death, and miracles of some saint. Papini has added in a more personal vein a certain literary *bravura* and some autobiographical notes. The presence of these notes, which at first sight might appear strange, is made clear by observing that some years ago Papini found grace on the road to Damascus and was clamorously converted to a zealous and militant Catholicism. It was therefore, if not justifiable, at least explicable that in the affairs of Augustine—man of letters, philosopher, Manicheist and subsequently a recruit to the Christian militia, Papini should be led to note an affinity and analogy with his own. He does not hesitate to make an explicit confession of them in his preface to his book, and we in our turn would not dare to reproach him for them, if his personal crisis of conscience had really enough depth and seriousness to serve him as a psychological criterion of interpretation of the crisis through which the great athlete of Christianity passed. Unfortunately, Papini's crisis is that of an arid and empty man of letters, who had no heresy to confess or expiate because indeed he had never had any thoughts and for whom the transition to Christianity was only one way like any other of following the current fashion (In Italy, in the post-war period, for those who do not know, there was a multitude of religious conversions, how sincere one cannot say.) We find the confirmation of this absence of true inner crisis reflected in Papini's account of the changes undergone by Augustine. Papini can see in him nothing but the sensual African attacked by sinful and carnal obsessions in whom the divine grace is manifested principally, or rather solely, as an alleviation and a calming of the life of passion. Had he written about St. Anthony instead of about Augustine, Papini could have left intact three-fourths of his book. As for the thinker, the theologian, the heresiologist—these aspects have only an episodic and negligible value in the book. Papini exhausts the substance of the Pelagian polemic in little more than one page, naturally skimming over the main points of the questions. It is needless to add that regarding the more tormenting problem of the Augustinian interpretation, that is to say the problem how to conciliate with the negative conception of evil and the idea of liberty formulated by Augustine, the rigid determinism and predestinationism of the anti-Pelagian writings, the author is wholly ignorant. To affirm that legitimately and without misinterpretation Luther, Calvin, and the Jansenists have been able to borrow from Augustine seems to Papini a blasphemy, as it would also seem to the most ignorant country parson, with this difference, however, that the priest in his ignorance might be in good faith, while Papini is a very shrewd man, who needs to create for himself a good title to orthodoxy in the eyes of ecclesiastical authority.

In a book devoted to the study of the intellectual and religious figure of Anselm of Canterbury A. Levasti¹ who has a decided leaning towards mysticism controverts the rationalistic interpretations of the great archbishop's doctrine and strives to bring it back entirely to the mystical principle of the inner illumination of Augustinianism. Now it is certainly indisputable that Anselm's famous proof of the existence of God has no syllogistic validity, and that its strength lies in the immediate assumption of a being over whom no other prevails, but it is equally undeniable that Anselm by the very fact that he tries to invest his intuition with the character of a demonstration, is not

¹ A. LEVASTI, *Sant' Anselmo (Vita e pensiero)*, Bari, Laterza, 1929.

satisfied with an inner revelation but seeks to make it conform to the terms of reason. It also seems rather venturesome to affirm as Levasti does that in the polemic with Gaunilone Anselm is vanquished in the rational defence. This zeal for mysticism as some Italian critics have observed leads Levasti to renounce too easily some part of the philosophical glory due to his saint to exaggerate the value of the objections raised against him and to withhold some of the honour mented by Anselm who was indeed a very subtle reasoner. Not only the *Monologion* and the *Proslogion* but also the *Cur Deus Homo* reveal an evident rationalistic *tourneur* unintelligible to those who like Levasti possess no criterion of interpretation other than mysticism. With this reservation it is nevertheless only proper to remark that the book contains good and efficacious pages especially where there is no interference between mystical motives and rational motives and where moreover the author has been able to revive without polemical distractions the inner life of his philosopher.

GUIDO DE RUGGIERO

(Translated from the Italian by CONSTANCE M. ALLEN.)

AMERICAN PHILOSOPHY

IN America most of us are so proud of our own achievements and—as a corollary of this—so provincial and narrow minded in our general world outlook that it has probably never occurred to us that until very recently we have cut absolutely no figure in the world's philosophy. In fact it may still be said that even in 1930 the influence of American philosophy upon the philosophical world is almost a negligible factor. But even such nearly negligible influence is vastly more than American philosophers could boast of thirty or forty years ago. The fact is that even as late as at the outbreak of the world war most of Europe hardly knew that there was any such thing as American philosophy. And up to a very few years prior to the beginning of this devastating conflict such judgment concerning the non existence of American philosophy was probably quite in agreement with the facts of the case. For an understanding of America's present cultural position it is essential therefore that one should know something of the recent advances in American philosophy. In fact such philosophical progress in contemporary America constitutes one of the most remarkable and distinct proofs of America's ability to make significant and appreciated contributions to the highest intellectual and cultural life of the world. It would be foolish were one—even yet—to claim that America has arrived philosophically. But the signs which indicate that American philosophy is definitely on its way are numerous and are constantly multiplying. If American philosophers cannot yet say "Plato Hume and Kant we are here! they can at least say "Hegel Bergson Alexander we are coming! Nor having said this need they fear being laughed out of court. American philosophy is coming to the front and is establishing itself abroad. For the first time since the founding of the American commonwealth American philosophy is being taken seriously where world philosophers meet. What then are some of the most significant mile-posts in the recent advance of American philosophy?

It is both easiest and most fitting to begin such enumeration by a roll-call—however brief—of the names of men who so far as we can judge at present have not only left the indelible imprint of their life and thought upon the philosophical present and future of America but whose fame abroad is also

largely responsible for whatever recognition American philosophy has been getting in the Old World.

In such a roll-call of world famous American philosophers the name of William James (1842-1910) must indisputably receive first place. It is not necessary for one to accept James's philosophy, to be a disciple of his or ever even to have laid eyes on him, to cause one to accord him ranking place in American philosophy. The unquestioned consensus of philosophical opinion both at home and abroad has given William James his place as the American philosopher *par excellence*, and for the estimator it only remains to state and attest the fact. But why did James attain to such an enviable position? Personally, I think that the answer, while at least three-fold, is really quite simple. In the first place, William James was truly—and in the Old-World sense of the term—a first rate scholar and savant (*Gelehrter*, as the Germans would say). That is to say he knew philosophical thought thoroughly, and from his detailed acquaintance and familiarity with the philosophical thought of the past he was able to proceed and make a—more or less—original contribution. In the second place, having gotten his cue and inspiration very largely from the school of British empiricism he was daring enough to depart most radically from the at his time, beaten track of Neo-Hegelianism and other forms of idealism. Finding that reason (or the intellect)—the *verbum magnum* of all rationalistic philosophies—simply abstracts from things what it is capable of abstracting by purely logical comprehension, and then treats the abstractions as though they were the real things, he raised his voice in protest and in behalf of a return to the concreteness of experience. In this departure James laid, in the third place, the foundation for tendencies and movements which, just because they reflect most accurately the contemporary American mind and temper, were destined to become—for a time at least—America's most typical philosophies, viz radical empiricism (with its naturalistic tread from which issued the various contemporary American naturalisms, including scientific materialism), and pragmatism (with its distinctly practical import and significance). Nevertheless it will have to be admitted that it is a practically impossible task to get any unified or systematic view out of James's doctrines.

As providing the initial impetus and inspiration for the following of a number of new trails in contemporary American philosophy, James's radical empiricism deserves probably first consideration, despite the fact that his pragmatism is probably more generally known. For "experience," in the philosophy of William James, came to mean the all inclusive and independent (i.e. self sustaining) reality which neither had nor needed to have anything outside of itself for support. The stuff of this "experience" is of no distinctive or single nature or character—that is to say, it is neither psychical nor physical nor anything else. Rather this "experience" is made up of as many kinds of stuff as the world actually presents, each of these being precisely what it is experienced as. Moreover, the connections and relations between the separate items are just as much real facts of "experience," and consequently are also what they are experienced as. It was this last point, especially, which made James call his metaphysical empiricism "radical," because, in contradistinction to the doctrines of most of the earlier empiricists, he did not reduce "experience" merely to its sensory aspects alone, but insisted that the connective elements of experience were as real as any others.

As concerns James's pragmatism, the first thing which must be said is that James himself insisted that it was more a philosophical *method* than a distinct philosophy. To use his own phrase, it is primarily the method which interprets our ideas of an object as "what conceivable effects of a practical kind the object may involve, what sensations we are to expect from it, and

what reactions we must prepare": Here is a definite attempt to connect philosophy directly and primarily with the practical interests and affairs of everyday life. And it is, indeed, in terms of this practical interest that the pragmatic theory of truth must be understood. An idea is true when it satisfies either through the fulfilment of a sensory prediction or through the successful result of the reaction. Such a theory of truth made room for a development of voluntarism and the famous Jamesian doctrine of the "Will to Believe," the doctrine in which he justified the rational right of man to extend belief beyond the limits of the things which are capable of definite verification. The pragmatic statement of the truth and knowledge problem also permitted James to insist upon the adventuresome element in human life, since in a 'world of experience' experiment and effort were not a mere fighting of shadows on an imaginary wall of a world of appearance, but made a real difference: things actually could be accomplished in such a world. Thus James in his pragmatism made room for interest in and zest for the practical affairs of a world in which everything that happens makes a real difference to the world as such. With such a comparatively new and practical programme, is it any wonder that James became—temporarily at least—the spokesman of American (practical) philosophy?

The other towering figure in American philosophy, second only to that of James (and there are those who would reverse this order), is that of Josiah Royce (1855-1916) for the last thirty-four years of his life professor at Harvard: twenty-five years of which time he was a colleague of James in the same department. Royce is undoubtedly the greatest exponent of the general Hegelian tradition which America has ever produced. That is to say, he was an absolute idealist. And yet, if this were the most, or the most distinctive thing, that could be said about him it is very doubtful whether his star would shine so brightly in the firmament of American philosophers. The fact is, while Royce never got away from the "Absolute," he never meant by it the cold, logical Absolute which Green, the Cairds, and Bradley had espoused in the more direct line of British Hegelianism. However determinedly he held on to his Absolute, Royce never forgot the value and significance of the finite individual, and consequently he was never able to get entirely away from a naturalistic and empirical touch in his philosophical thought. It was this serious attempt to find in an absolutistic universe a significant and meaningful place for the finite individual: a place which in other Hegelian philosophies was always swallowed up by the all-devouring "Absolute," which gave Royce a significant place among America's philosophical immortals. For it showed the greatness of a man who would not let the obvious logic of an accepted and held position dim his moral vision of the need for finding a significant place for man in this universe. Thus actual human experience proved more powerful than mere cold logic, and Royce announced and defended the doctrine of an Absolute which includes a large number of lesser wills and consciousnesses, each of which has a large degree of freedom and independence, both of the will of other finite selves and even of the will of the Absolute. For, he says, these finite selves or wills are not only dependent on the Absolute but even the Absolute is in a way dependent on these lesser wills, since these latter through their own expression are actually contributing to the nature of the absolute.

In his ethical doctrine of demanding "loyalty to loyalty," i.e. devotion to causes greater than the individual's own interests, Royce united both his absolutistic and his empirical interests and tendencies. And in his social

¹ *Pragmatism*, pp. 46-47.

Utopian ideal of 'the beloved community' he not only again expressed the union of his two metaphysical tendencies but also lent expression to the great inner hope and idealism by which he lived. These two phrases of Royce viz. loyal to loyalty and the beloved community will live in idealistic thought as surely as Kant's duty for duty's sake and his categorical imperative will live in philosophy the world over.

Another Massachusetts university had in its philosophy department an outstanding leader of American philosophical thought. I refer to Borden Parker Bowne (1847-1910) who was professor at Boston University from 1876 to 1910. He was the ardent advocate and American founder of the school perhaps best known under the name of personal idealism or personalism. He does not have the standing either at home or abroad of a James or of a Royce. And very likely he does not quite belong in their class. Yet it is true that such men as Eucken and Bergson have acclaimed him as America's most profound philosopher. However that may be there are reasons for such acclaim and consequently for his inclusion in an enumeration of outstanding figures in American philosophy. Taking his cue from Lotze and Renouvier Bowne worked out a system of philosophical theism which by placing persons in the very centre and heart of reality at one and the same time dignified and lifted human personality and by insisting on the personality of God who while God and the Supreme Person was yet but the head in a world of persons and not an all inclusive Absolute made the personal relationship between man and the deity not only possible but inevitable. Nature for Bowne was simply the particular expression and scene of communication for these persons. In the experience of the active self causality is best revealed here we have unity in plurality mutual otherness and relative dependence but also relative independence of individual persons. We have here then a philosophy of persons or of personality which tries to do justice not only to the moral and religious consciousness of man but to the widest significance of man himself through the concept of personality denoting the heart yea the very nature of reality. As personal idealism continues to grow the influence of Bowne is sure to increase. But even at present he occupies an enviable place in American philosophy.

But not all of America's internationally famous philosophers have passed off the earthly stage. It is no mere coincidence that the unquestionably greatest of American living philosophers to-day is if not a close follower at least a disciple of William James. John Dewey (1859-) while perhaps better known as the originator of instrumentalism than as a pragmatist yet belongs to that general camp of radical empiricists of which pragmatism and instrumentalism are two closely allied and related groups and which in America have their common father in William James. Emphasizing the use of intelligence as an instrument a tool created out of the biological needs of the immediate and practical interests and relations of life and for the purpose of the furtherance of these practical interests and relations Dewey has carried the newly developing and characteristically American tradition a little farther. Knowledge he informs us is simply a functional part of experience and reason is simply a tool which experience itself forges at a certain stage of the business of living out of the exigencies of the situation. As long as everything goes well man does not think he simply reacts. It is only when for whatever reason he is thwarted in his contemplated or undertaken action that he is forced to view the situation. This latter attempt is that peculiar aspect of experience which we call thinking the aspect which Dewey identifies with knowledge. For Dewey as for James that which guides us truly is true. Dewey has also developed a social philosophy and a philosophy of education.

and of progress in which he applies the instrument of intelligence and reason to the thwarted reactions of society, of education and of human advance in general. In these last-named fields Dewey excels as America's leading social philosopher.

Finally it is probably true that no such roll call of the leading American philosophers would be complete without the name of George Santayana (1863-)¹ While epistemologically he represents his own specific branch of the growing American school of critical realism having been one of the seven contributors to the first manifesto² published by this still very vital school of philosophical thought, he is undoubtedly better known as America's great poet philosopher. It is in this capacity that he not only takes first rank, but stands on a rather lonely contemporary pedestal, therefore his widespread fame may be said to be well deserved. One follows his writings and his ideas not primarily because one is convinced by any logic or force of argument but because one is carried along by the fluency of style and beauty of expression. This may not be the best philosophy in the technical sense of the term, but it is inspiring philosophy, and as such has come to play a real part in the world's philosophic thought. Yet these remarks must not be taken to mean that Santayana is not a clear and, within his self-imposed limitations, consistent thinker. He is only his logic is overshadowed by the æsthetic character of his writings. For example, he is a critical realist because for him all knowledge takes place through the mediation of "essences" rather than through direct apprehension of the actual things in the external world. And yet, as soon as he pursues his doctrine of "essences" farther, we discover that he surrenders a thorough-going critical realism now for a fairly definite sensationalism, and then for what looks very much like Platonic realism. Such matters, however do not trouble Santayana. Viewing human life under the aspect of reason and on the foundation of a fundamentally mechanical—and therefore scientifically analyzable—world he finds that a world thus treated satisfies the highest demands of his intellect and reason, why, then, worry over the quibbles of most technical philosophers? An æsthetic rationalism then, dominates not only the literary expression of this unique American philosopher but also the actual content of his thought. This in itself would be reason enough to cause us to include him here.

If next we take a brief look at the definite philosophical movements of recent years which had their beginning and development on American soil we shall discover that here too, America has definitely crawled out of her shell of simple acquiescence in and furtherance of European originated and developed ideas. In the realm of the theory of knowledge America must be credited with at least three (or possibly four) important movements which have commanded more than mere passing attention, viz. American neo-realism, American critical realism, pragmatism (and instrumentalism, if this be considered separately from pragmatism as it undoubtedly should be).

Realism as a philosophical doctrine and outlook is, of course, not of American origin. From one point of view this position can probably be traced back as far as Plato himself. And even as a definite common sense philosophy and epistemology it goes back at least as far as Thomas Reid (1710-1796) the founder of the so-called Scotch philosophy of common sense realism. But while this is true, and while, moreover, various types of realism hold the centre

¹ While not originally American, Santayana is yet recognized the world over as an American philosopher.

² *Essays in Critical Realism*. A co-operative study of the problem of knowledge. By Durant Drake, A. O. Lovejoy, J. B. Pratt, A. K. Rogers, George Santayana, R. W. Sellars, and C. A. Strong. Macmillan, 1920.

of the philosophical stage everywhere in the occidental world to-day, there are so many variations of realism that we are not splitting hairs when we claim that both American neo-realism and American critical realism are distinctly American products. American neo-realism issued its declaration of independence in 1912 under the leadership of such men as E. G. Holt, W. P. Montague, W. T. Marvin, R. B. Perry, W. B. Pitkin, E. G. Spaulding.¹ In common with all forms of recent realism, it holds that not only is there a real external (i.e. extra-mental) world but that real knowledge of this world is possible on the part of man. But in definite distinction from other types of realism, neo-realism staunchly asserts and defends the theory that the real physical existences are immediately present in perception, and that logical subsistence is immediately present in thought. It was not until eight years after this co-operative effort of the new realists that the critical realists of America published their manifesto (also co-operative) in 1920.² While they insist as positively as any other realists on the possibility of real knowledge of the external world and on the mind independent existence of this real external world, they hold that in the knowledge-situation there is no direct or immediate apprehension of the transcendent existence. That what is immediately given to the knowing mind is the so-called essence, 'nature' or character-complex of the thing known and *not* the transcendent thing itself. Knowledge, on their position is the reference of these immediately given and "had" essences (etc.) to the transcendent existent. It is of course, impossible to give any adequate or even a fair statement of either or both of these schools in the brief compass allowed to this essay. Enough to say finally that whatever one's own opinion with reference to either or both of these American realistic schools of philosophy may be, each of these schools has worked out a distinct and elaborate doctrine and theory, and one, moreover, which while not having taken the world by storm, cannot be overlooked by anyone to-day who undertakes to grapple with the problem of knowledge. It is not only possible, but more likely probable, that both schools will soon be superseded by a better and more adequate formulation of the knowledge problem, but even in that case it will probably have to be admitted that their labours will definitely have contributed to that better and more adequate statement and solution of the problem. No account of recent gains in American philosophy therefore, could be considered adequate which would fail to mention these two distinctly American contributions to the epistemological problem.

In turning next to pragmatism, we are discussing the one philosophy which, more than any other, has come to be known as typically and characteristically American. William James credited Charles S. Peirce (1839-1914) with being both the corner of the word and the originator of the theory for which the word pragmatism has come to stand. This may be admitted. But it was not until James took up the cudgels for pragmatism and formulated the theory in his own clear and inimitable style and put behind it the whole force of his personality, scholarship, and standing that pragmatism became not only known and recognized as a philosophical theory, but soon usurped the place of "the American philosophy." The reasons for this distinction of pragmatism are not far to seek. For, as has already been intimated, pragmatism as a theory of knowledge consists of the emphasis on the categories of interest and practice on the one hand and, on the other, of the insistence on reducing relations, activities, and other supposedly transcendent realities, such as substances, etc., to the continuities of sense-experience. This is a doubly strong interpre-

¹ In a co-operative volume called *The New Realism* Macmillan, 1912.

² This has already been referred to in footnote—page 274 above.

tation of a typically American emphasis interest and point of view For America is primarily of a practical frame of mind business like and efficient On the second count America is equally bent upon scientific demonstration and materialistic emphasis which is easily philosophically accounted for by stressing the continuities of sense experience Besides all this pragmatism has always claimed for itself the distinction of being not a philosophical system but a philosophical *method* This also is typically American for America is hardly old enough to have quite crystallized she is too much in the process of growth and development to be able to be put into a closed system As a method however and especially as an empirical scientific and voluntaristic method it again is most characteristically representative of the pushing and driving American mind and outlook It is for this reason that America—to exemplify her true character—had to evolve and develop a philosophy which instead of viewing all problems *sub specie aeternitatis* viewed every thing from the point of view of does it work? and what does it accomplish here and now? Pragmatism is the philosophy of American workability and efficiency No wonder that all the world when thinking of American philosophy thinks of pragmatism This is so true that it may perhaps be said that the philosophical world outside of the boundaries of the United States considers pragmatism in America to be very much stronger and more vital than it really is at present For while it is still true that no type of philosophy seems to portray the contemporary American mind and emphasis better and more adequately than does pragmatism it will have to be admitted that over against the very rapid strides of the various realisms pragmatism has had to take a seat of minor importance in recent years even in the United States But although pragmatism should nearly vanish in America—which however is not likely to happen for some time—it will be a long time before the rest of the world will be able to cut itself loose from the association of America with pragmatism so obvious is the connection between the two

The instrumentalism of John Dewey is as has already been pointed out a direct descent—or is it ascent?—from pragmatism In the true spirit of his master John Dewey was not and is not satisfied to be a mere follower or imitator It is true he has taken over the most valuable aspects of James's pragmatism but he has also gone considerably beyond James He calls his philosophy the new pragmatism or instrumentalism thus carrying on the pragmatic tradition while adding to it as the most significant point of his own *Weltanschauung* the emphasis upon thought and intelligence as the tool or instrument used in any situation in which the road has been blocked or where more immediately natural attacks have been frustrated It is readily seen from this that instrumentalism while distinctive in its emphasis is yet true to the pragmatic method and general point of view Thus pragmatism and instrumentalism share in the distinction of being most typical and representative of the American way of living and thinking

There is one further tendency in recent American philosophy which while perhaps not so definitely connected with the name of one or two great outstanding representatives is nevertheless not only widely accepted and taught and therefore of far reaching philosophical importance but also it seems to me quite typical and representative of the general American spirit and emphasis at the present time I refer to what for want of a better name may perhaps most adequately be called and described as the philosophy of science Sometimes this philosophical tendency is largely methodological and sometimes metaphysical in nature In the first instance it insists not only upon the use of the scientific method (so-called) in philosophy but also denies the legitimacy of using any other method in philosophical investigation and research In

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other words it wants a scientific philosophy and therefore delimits philosophical work to the realms capable of yielding to purely scientific analysis. Such methodology is bound to have its metaphysical consequences. And this has indeed been the case. For the quite general tendency of American philosophers who have enrolled under the banner of the philosophy of science has been to reduce the entire universe to purely physical and material facts, data and relationships, thus being the field in which the scientific method has been most successfully operative. One need not marvel at the easy and comparatively general spread of this scientific methodology and materialistic metaphysics in recent American philosophy. For if the *contemporary* American mind and temper is anything at all, it is materialistic and I would be scientific. That is to say, America is more than ever bent upon material accomplishments and upon the possession of things. At the same time it worships at the shrine of scientific achievement and success. Science and things are the twin goddesses of modern America and a materialistic scientifically directed philosophy is perhaps more accurately descriptive and representative of the America of to-day than any other type of philosophy, even pragmatism not excepted. Moreover, while I do not believe that a philosophy restricted to those fields and aspects of the universe which lend themselves to scientific analysis and description can be either adequate or, in the last analysis, truly philosophical, there can be no denying the fact that we can only welcome the *strict* application of the scientific attitude and method to the very farthest possible limits. The results of the philosophy of science have by no means been meagre, even though they may always have to fall short of being complete or final. Of course no philosophy is ever either complete or final, but the goal and aim for every true philosophy—except the philosophy of science—used to be that of inclusion of all the actual aspects of human experience, whether or not all of this experience lent itself to purely scientific analysis and description. Meanings and values are, after all, *at least* equally as important aspects of the life and experience of man as are rocks and trees and stars and instincts, etc. Any philosophy, therefore, which voluntarily limits itself in such a fashion as to be unable to account for meanings and values, to that extent fails to take account of the whole of human life and experience and to an equal extent fails to be—in the old accepted sense of philosophy = *Weltanschauung*—really and truly a philosophy. Nevertheless, let the philosophy of science go as far as it can; its positive conclusions cannot but be valuable. And—as already stated—its temper and emphasis is certainly true to the contemporary American spirit and temperament.

All of these gains in recent American philosophy have been at the points of the theory of knowledge, of methodology or of metaphysics. And it is true that thus far American philosophy—outside of the quite obvious and logically inevitable attempts of instrumentalism and even here only for the moment and not with the long range view—has utterly failed to make any significant contributions in the fields of ethics, of social and political philosophy and in æsthetic philosophy. But perhaps it is just as well that America should first build solid epistemological and metaphysical foundations before she ventures to erect the artistically more beautiful and immediately more apparent and visible superstructures of ethics, social and political philosophy and æsthetics.

In conclusion, what may be said to be the real gain, the real distinctive and lasting contributions of recent American philosophy to the philosophical thought of the world? To put it very briefly and succinctly: In its emphasis upon the world of *bare* and *fast* reality—not to say materiality—as over against mere ideas or ideals, in its determined effort to demonstrate the real

possibility of actual knowledge, in its insistence upon the use of the "scientific method," and in its specific consideration of the "practical" and "useful"—in these points recent American philosophy has succeeded in a distinctive and valuable interpretation of the peculiar and characteristic spirit and attitude of contemporary America. Such gain is not to be under-estimated, it is a sure proof of America's real intellectual and cultural awakening, and an equally certain guarantee for the more definite arrival of American philosophy in the world of to-morrow.

PAUL ARTHUR SCHLIPP.

NEW BOOKS

Mind at the Crossways By C LLOYD MORGAN, D Sc., LL D F R S., Emeritus Professor in the University of Bristol (London Williams and Norgate, 1929 Pp xi + 275 Price 10s 6d net)

Professor Lloyd Morgan here tells the story of the mind from two points of view which he holds are distinct that of scientific interpretation and that of dramatic explanation. The first is concerned with an account of the observable facts of interrelations between events it refrains from thinking of events as due to agents of any kind even as due to other events. It is content to note how events are related. And because Professor Lloyd Morgan wishes to keep quite clear about this he avoids the use of the word cause in his account of scientific interpretation since cause can hardly help suggesting that one set of events somehow constrains other events. The second point of view is entirely concerned with agency. The author's thesis here is that it is not until we reach persons that we have any right to speak of agents and when we do so we have gone beyond the point of view of science. But the story of events as resulting from agents is essential to a complete account if it were not for agents, science would have nothing to explain. On the one hand the whole process of evolution must be regarded as due to a Divine Agent who can be nothing less than a Person, and on the other hand when the scientific account of the evolution of finite mind has shown the gradual emergence of reflective consciousness it can do no more and has to leave the further story of reflective consciousness as personal agency, to be told from the point of view of dramatic explanation. The author puts his position by saying that personality does not evolve. Consciousness evolves, its highest stage is that of reflexion, this highest stage is just as capable of being dealt with in terms of scientific interpretation as the lower stages of mind, but with the advent of reflective consciousness comes also the new thing personality agency capable of a new kind of treatment from which science makes abstraction. Thus both treatments are possible over the whole field of events, science always abstracting from agency, and considering only relatedness dramatic explanation seeing in the whole series until man arrives, only the agency of God, and thereafter, the agency of man as well. The two treatments are different, but not incompatible. Such is the general thesis.

The bulk of the book is concerned with the account of the stages of the evolution of mind from the scientific point of view. It is extremely careful and restrained charmingly told, full of wisdom, and is to be commended to all readers who desire to avoid rash generalizations and loose thinking. It is told of course in terms of emergence the various levels being defined in terms of what can be actually observed with the dangers of imputing more than is present kept always in sight. The difference between the physical and the mental appears to the author so great that he will not allow himself to speak of the mental as emerging from the physical, if mind is ever to emerge in its higher stages, something more akin to mind than the merely physical must be present. He speaks of it as at least 'other than physical'. Thus being supposed he distinguishes three levels of emergence in mind that of percipience, that of perception and that of reflexion. These are all "modes of reference," involving a mind referring a field of relatedness and a somewhat referred to and as the level of "mode of reference" becomes higher and more complex, so does the level of the mind referring of the field of relatedness and of the

somewhat referred to. Thus the mind which has reached the stage of perceptive reference has a different world, and refers to it in a different way, from mind at the level of mere percipient reference, and the next stage, of reflective reference, transforms the world and the mind as well as the mode of reference. Transforms the world though not entirely, for the lower modes of reference are retained and included in the mind which has reached a higher level. But the world referred to at any given stage is always a world-of reference relative to that stage. Thus for example at the stage of perceptive reference, the world-referred-to is not a world explicitly organized in terms of space and time, and at the stage of percipient reference the world referred-to contains no definite objects with a plurality of characters.

There is a further general point to be noted in Professor Lloyd Morgan's treatment of mind. He does not use the term "awareness" to mean awareness of objects for such awareness he prefers to use the word "reference". He keeps the word 'awareness' for the purely subjective enjoyment of the mind in its seeing touching feeling reflecting etc. for the 'ing' side of the mind. Objective reference and subjective awareness are thus distinguishable, and subjective awareness can be considered in abstraction from objective reference. So considered, the various modes of subjective awareness constitute an organized or integrated system of subjective awareness. This unitary system is the someone in mental regard" (49). And the general thesis is that with each item of physiological process in the bodily organism "we may hyphen an item of subjective awareness". With this hypothesis, which he speaks of as that of 'concomitance,' he contrasts the ordinary hypothesis of parallelism which correlates physiological process with "objective reference" rather than with "subjective awareness" (50).

In his evolutionary account of mind he tells a two-fold story, one in terms of the physiological organism, one in terms of mental relations. The mental story itself tends to split into two, one in terms of objective reference, one in terms of subjective enjoyment, so that we often have a triple rather than a twofold story. But this story does not concern three separate processes, but rather the threefold aspect of one single process (123). It seems clear that objective reference is very closely linked with the purely physiological story, even though that story is itself unable to give any account of it. I am a little doubtful about my interpretation of Professor Lloyd Morgan's views here, but as I understand him, while the physiological account can refer to bodily changes only it must recognize its account as incomplete even as a description of the given field of relationships, it must admit that conditioning the changes within the field there are relationships of objective reference. These relationships cannot be described through direct observation, they have to be 'imputed' to the animal by the observer. It is here that he must exercise all the caution and restraint of which he is capable having regard on the one hand to the purely physiological story, and on the other hand endeavouring to construct the story of subjective awareness, never imputing a higher level of mental relationship where a lower level will serve.

Into the details of the threefold story we cannot here enter, it must suffice to note one important point which gives the title to the book. The critical stage in the development of mind occurs with the conditioned reflex. At one level the stimulation of a sense-organ gives rise to a complex reaction of a definite type, prescribed by the nature of the organism. In the very young infant eye focuses on a bright colour, hand grasps as a result of a touch stimulus. Eye movement and grasping are independent. There is at this stage no anticipation of experience, no co-ordination of one experience with another. There can here be no reference to an organized world. But there soon comes

a new development. In this new development the stimulation of the eye gives rise directly to grasping by the hand without any intervening touch stimulus. Or the touch stimulus gives rise to the movement of the eye toward the object without any intervening visual stimulus. The mode of response originally belonging to the one stimulus becomes directly linked with the other stimulus. This Professor Lloyd Morgan picturesquely calls 'cross-over' and it is this crossway which for him marks the change from mere perception to perception from a world without any anticipated features to a world in which fore-experience meaning plays a large part from a world in which behaviour invariably follows on stimulus to a world in which there is a 'prospective factor' effective in the guidance of behaviour. It is only after cross-over that Professor Lloyd Morgan is willing to attribute mind proper. You have mind at the crossways but not before. There is a new crossway of a higher kind at the point of passage from the level of mere perception to the level of reflexion. That is one reason why he chose this phrase as the title of his book (271). His other reason for the title concerns the story in terms of dramatic explanation. What is for science emergent evolution just-comery as he calls it is for dramatic explanation creative evolution every new point of which is the expression of one Divine Purpose and in this sense too we can speak of Mind at the crossways.

In his accounts of dramatic explanation Professor Lloyd Morgan has many delightful things to say about Art and gives many wise hints of the dangers of introducing dramatic conceptions into scientific interpretation. The whole book is written in simple almost entirely nontechnical language and yet in words so judiciously chosen that the risk of confusion is reduced to a minimum. We are grateful to its author for giving us this rich vintage.

L. J. RUSSELL

Logic for Use By F. C. S. SCHILLER (London: G. Bell & Sons, 1929)
Pp. vii + 469. Price 16s.

In *Logic for Use* Dr. Schiller sets out to build a humanist logic to replace the formal logic his *Formal Logic* destroyed. He admits that the building does not get very far beyond foundations and that in its constructive detail humanist logic remains unwritten. It is to be hoped he will go on to write it. In this volume there is little that will be new to Dr. Schiller's many readers. He again attacks formal logic with the weapons used before him by Bradley and Bosanquet, Mill and Hume and Bacon. He shows again that syllogistic inference demands ultimate premisses otherwise established and how difficult such premisses are to find. He holds that forms of thought must vary with their subject matter and that syllogism is therefore not universally applicable. Here however his argument carries him to two further conclusions, one of which seems false and one fatal. He says formal validity is merely verbal and that syllogistic inference is therefore not a form of thought at all. This surely goes too far. It may be difficult to ensure that terms in an argument are devoid of ambiguity. The essence of man is different according as the term is used by a biologist, an economist or a feminist, but it does seem still possible that a thinker may remain consistently a feminist just long enough to complete a syllogism which contains the term. Formal canons may apply only in the fields of 'class and member' or 'rule and case' yet there may be classes and rules and therefore syllogistic forms may be applicable to some inferences even if such inferences are rare and unimportant. The second extreme position to which Schiller is driven is not necessarily false but is fatal to his own enterprise. He follows

Bradley and Bosanquet in refusing to isolate concept from judgment and judgment from its context in inference, and he claims to push this method just one step further. Inference too, has always a context of action and desire and personal motive. When Idealist logic neglects these it also falls victim to intellectualism. But if we are not to abstract from the personal setting of thought then each thought process will be unique because of the novelty of the action in which it is entangled. Schiller attacks orthodox logic because it cannot tell us whether *Pithecanthropus erectus* was a man or an ape (p. 406) nor help us to find the cure for cancer (p. 362). Similarly, ethical theory is attacked because it does not solve particular moral problems, and yet casuistry which tried to do so is simultaneously condemned because it tried to use rules while each moral problem is unique. Now surely moral decisions are the sphere of the moral agent, and if each is unique moral philosophy is exhausted in mentioning this single fact. So also *Pithecanthropus* and cancer are the concern of the scientists, and if their methods are examples of recognizable and repeatable types of inference then logic is possible. If however, the character of each inference is so completely determined by the question which prompts it, the desires which forward it, and the actions which result from it, that disregard of these means error, then there can certainly be no 'logic for use' and (except this single statement) no logic at all. Humanism must press its anti-intellectualism to the Bergsonian extreme and deny the possibility of valid abstraction entirely, or purchase a logic at the cost of becoming a variant form of the intellectualism it derides.

Schiller goes on to deal with the nature of truth—an old story, but never before so fully told. A theory is true when it "works", data are "facts" when they are relevant. The explanation of these terms seems to reveal four views. The first is a very popular usage of pragmatism which Schiller rightly rejects. It takes pragmatism to mean a distrust of *a priori* theorizing and an acceptance of the 'hard facts' as they arise. Now these hard facts, on which the heads of unwary hypotheses are incontinently broken wither away under Schiller's analysis, and one of the best parts of his book shows that facts are always relative and provisional. This brings us to the second view which is Schiller's first solution. Facts are relative to their problem. This also seems sound. The facts are always the facts of the case, they are selected. And again the facts are the facts for this case, much, even in the selected facts is ignored. The work of the scientist, indeed, is not to start with facts: often his work is complete when he has found which 'the facts' are. Another view, however, swiftly follows, and it appears that facts are relative to purposes and that all purposes are practical purposes. Bradley might have acquiesced in the view that relevance to a problem was the principle on which we determine 'the facts', he could also agree that abstractions are made for a purpose by their contribution to which they are to be understood and judged. But in Bradley the purpose is purely cognitive, while Schiller's main doctrine is exactly the reverse. It is true that in a few isolated passages he seems to admit that knowledge may be disinterestedly pursued. Logic is 'an autonomous science' (p. 18). "Predictions are not merely theoretical" (p. 96). "Truth is good and desirable, and men in general desire it" (p. 123). But to press these passages would involve so radical a revision of the pragmatist position that they must be regarded as lapses from the true doctrine that knowledge occurs only when action is obstructed, and its only aim is to further action. This is of course, the supreme crux for pragmatism. What can Schiller say of curiosity? He must either deny its existence entirely, which would be heroic, or deny

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that it can lead to truth which would be even more heroic as it is the motive which has dominated all but a few of the great discoverers. Practical applications of scientific discovery—applications which forward human purposes—are almost always happy accidents which have no interest for the discoverer himself and form no part of his processes of verification. The one really great scientist who might seem to support Schiller's claim is Pasteur. But even he did not begin to think because he saw anthrax and hydrophobia hindering human purposes but because he wondered why some apparently similar crystals reflected light differently and he himself stated, echoing Plato: To be astonished at anything is the first movement of the mind towards discovery. Relevance to purpose then means relevance to practical human purpose. The general effect of pragmatism is to replace humanity at the centre of the universe. Now surely humanity is a more curious abstraction than any that intellectualism has ever devised. How can an aggregate of persons whose purposes are sometimes selfish and frequently conflicting be the centre of anything? So we are driven to the fourth view that the purposes not of humanity but of the individual determine truth and relevance. Man—men—me is the movement of the centre of the universe. The error of Formal Logic is that it ignores that every act of thought is performed by some one at some time in some place from some motive for some ends (p. 31). Now the *argumentum ad hominem* is inelegant criticism but against an egocentric philosophy it may perhaps be justified. If we were to attribute the author's logical theory then to such factors would he be flattered or complacent and would he think that we were exposing its real truth and value? Until I reached the passage quoted I had neglected these factors in Dr Schiller's own case and had attributed his views to a desire for truth. But now I had to go back to the preface I had wantonly neglected and search for the effect in his work of other motives and of the circumstances in which it was written so that I might say that Los Angeles is a very significant provenance and much can be attributed to the heat of a Californian June. It is true that an author's writing may be affected by such factors but it is surely wrong to find in such influence the very nature of truth. Most people would happily accept the pragmatist account of truth as the correct account of error.

Logic for Use like all Dr Schiller's writings is very clear and readable. There is no more vigorous statement of the pragmatist position and the freshness of the examples and the vivacity of the style carry the reader along irresistibly. Even if the reaction which the book provokes may be antipathy as much as agreement it singles out the major problems and makes them living and interesting issues.

J. D. MABBOTT

A Comparison of Kant's Idealism with that of Berkeley By H. W. B. JOSEPH
M.A. Fellow of New College and Lecturer in Philosophy in the
University of Oxford. Annual Philosophical Lecture, Henriette Hertz
Trust, British Academy (London: Humphrey Milford, 1929.
Pp. 24. Price 1s. 6d. net.)

This little pamphlet is probably the most interesting and the most provocative eighteenpennyworth at present on the market and contains more material for thought than many a long and pretentious treatise. Mr Joseph's main object is to show that Kant's view of the physical world is not really very different from Berkeley's and that the two philosophers do not (as

Kant himself thought) contradict, but rather supplement, each other. He further holds that this conjoint Idealism is more likely to be true than any form of Realism.

Accordingly, Mr. Joseph's first task is to examine the *Refutation of Idealism* which Kant inserted in the second edition of the *Critique of Pure Reason*. In this Kant professes to prove that we have an immediate consciousness of external objects: for if we had not, we could not have that consciousness of the succession of our own inner states which we do as a matter of fact possess. These states being in themselves a mere flux, their serial characters can only be apprehended if we are able to date them by reference to permanent objects outside us. But, says Mr. Joseph, why "outside us"? Why may not the permanent be just the I? The I has, as a matter of fact, the required permanence: not only so, but the *Deduction of the Categories* shows (according to Mr. Joseph) that I must in any case be conscious of its permanence, since otherwise I could not be conscious of objects at all. Mr. Joseph therefore regards the *Refutation* as a failure.

To this I think Kant would answer, that he never said the I was permanent, or that we must be conscious of its permanence in order to apprehend objects. What we must be conscious of, according to him, is its singleness or identity. And does not Kant take special pains in the *Paralogisms* over this very point that we cannot argue from its identity to its permanence? But perhaps Mr. Joseph would reject the *Paralogisms* too. Whether he does or not, he is, I think, committed to rejecting the *First Analogy*, in which Kant contends that we cannot be conscious of any succession, even a mere succession of sense-data unless we are also conscious of persistent physical objects, to which the sense-data are referred, as their manifestations. For here, too, according to Mr. Joseph, the I will do instead. But if we go on in this way, how much of the *Critique* will be left?

Mr. Joseph now proceeds to his reconciliation of Kant and Berkeley. According to Berkeley, each man perceives only his own sense-data, which are private to himself and exist only when perceived, but it is also true that in some way the tree exists in the mind of God even when there is no one about in the Quad to perceive it. The question is, in what way? Berkeley himself never tells us. All he says is that "God knoweth all things as pure mind or intellect, but nothing by sense", for sensing is passive, and God is wholly active. Mr. Joseph's suggestion is as follows: what God really does is to think of a system of bodies in space, and He provides us with just those sense-data which we should sense if such a system of bodies actually existed. And these thought-of but non-existent bodies, Mr. Joseph holds, are just what Kant calls phenomenal objects, distinguishing them from sense-data (*Vorstellungen*) on the one side, and things in themselves on the other.

Further, Mr. Joseph thinks that Berkeley needs another supplementation. Not merely his account of the order of Nature itself (as it exists in God's mind) but his account of our knowledge of that order is vague and insufficient. We cannot just arrive at that order empirically, by merely observing the sequences of our sense-data. For sense-data, taken as and when they come, are not orderly at all, they only become so when tacitly eked out by the conception of a system of persistent and uniformly-changing bodies in space—the very conception which the empiricist is supposed to be accounting for. Thus we must possess an *a priori* or non-empirical knowledge of at least the main principles of God's working, i.e. a knowledge of the general nature of the scheme of bodies, by the thought of which He guides Himself in producing sense-data in us. And this is very like Kant's doctrine of *a priori* knowledge.

But that is not all. Not only must Berkeley become something of a Kantian. Kant must become something of a Berkeleyan. For how are we to explain the fact that sense-data conform to the principles of the Understanding so that they can all be thought of as connected with a conceived (though not actual) world of bodies? If the *Ding an sich* upon which the sense-data depend be itself an intelligence—and that is exactly what Berkeley holds—then the conformity is completely explained. Otherwise it is a standing miracle.

Mr. Joseph's point here is a plausible one, yet it is surely significant that Kant, who himself mentions this conception more than once, would never commit himself to it, and when something of the kind was maintained by Fichte, definitely repudiated it. Further, it has no tendency to support any one interpretation of Kant rather than any other. For instance, it is perfectly compatible with a realistic interpretation of him such as the *Analogy* and the *Refutation of Idealism* seem to commit us to. According to this, the question is why is the real external world such that it can be apprehended by beings whose consciousness is of the sensuous and synthesizing sort? And here too we may, if we like, give the theistic answer which Mr. Joseph gives.

However, according to Mr. Joseph, the Kant-Berkeley philosophy is irretrievably idealistic. True, it holds that not merely sense-data, but bodies, must be present to our consciousness, and indeed immediately present. But for all that the bodies are not *real*. They are mere *Gedankendinge*, *entia rationis*, and physical Nature is nothing but a sort of Cloudeuckootown.

But why accept so unwelcome a theory? The attack upon Realism, with which Mr. Joseph concludes his paper, is unfortunately very compressed. He seems to have two main arguments. The first is that scientific objects differ so much from perceptible objects. But does not Mr. Joseph take Science too seriously? After all, Science is based on perception, and we should therefore expect that scientific objects would turn out to be some how functions of perceptible objects, such as chairs, tables, and test tubes. The Phenomenalists have tried, in their own way, to show how, and there is no reason why the Realist should not take a leaf out of their book.

Secondly, *Space* is a huge bear to Mr. Joseph. He complains that it is not a genuine whole, that it does not consist of genuine parts, and that spatial magnitude is unintelligible save in connection with sensible qualities, which he holds (though he does not say why) to be mind-dependent.

But we would suggest that there *must* be an answer to these difficulties, on Mr. Joseph's own showing. If the notion of Space is self-contradictory, how can a system of bodies in space even be *thought of*, whether by God, or by Mind in us? And if Mr. Joseph says it is indeed self-contradictory, yet we are bound to think of it, and to conceive bodies in terms of it, the reply seems obvious. First, it is not Berkeley, nor Kant, but Hume, who holds that our conceiving of the external world, though inevitable, is based upon intellectually indefensible fictions. And secondly, we may suggest that the term *Space* (and the same would be true of *Time*) is what Cambridge logicians call an incomplete symbol, though a substantive in grammar, it is not the name of anything, certainly not of any quasi-substantial entity. If we completed the symbol, and spoke not of Space and its parts, but of the shapes, sizes, and distance relations of objects, Mr. Joseph's difficulties might conceivably be abolished.

H. H. PRICE

JOURNAL OF PHILOSOPHICAL STUDIES

Outlines of Metaphysics By JOHN S MACKENZIE, Litt.D Camb, LL.D Glas.,
etc Third edition, revised (London Macmillan & Co 1929 Pp xiv
+ 184 Price 5s)

Few tasks can be more difficult than the writing of an introduction to *Metaphysics*. That Professor Mackenzie has met with remarkable success is shown by the fact that this book, first published in 1901, has now reached its third edition. Nor are we surprised at this. Dr Mackenzie writes a clear and readable style. He has the art of leading the reader by easy stages into deeper and deeper problems yet never "talks down" to him. And somehow or other he manages to pack an extraordinary amount of matter into some 180 short pages. But just because the book is so remarkable a performance, and has had and will have so wide an influence, it seems necessary to draw attention to certain points in it which appear questionable.

Dr Mackenzie defines *Metaphysics* as "the Methodical study which seeks to take a comprehensive view of experience with the view of understanding it as a systematic whole." Is not this an odd definition? Why not say, instead of 'experience' the 'Universe'? To this the author answers that some readers (surely very foolish ones) will not regard the subjective, e.g. feelings, illusions, wishes as part of the Universe. This objection, we may reply, would be avoided if we said 'the Real' or (with Aristotle) 'the Real as such.' For nobody can fail to see that minds with all their feelings and illusions, are as real as anything else. The matter is not unimportant. For by using the term 'Experience' here, we commit ourselves to Idealism from the start. (In point of fact the doctrine of the book is a mild and perhaps innocuous form of Hegelianism.) Now no doubt we do mean something by the term *Experience*. Presumably we mean such facts as that I am now perceiving A or that you are interested in B. Such facts are no doubt of great, very likely of decisive importance in *Metaphysics*. But to assume that facts of this sort are the only ones there are is surely very singular. No doubt it is perfectly true that everything which a metaphysician or anyone else can discuss must be *experienceable*. But it does not follow that everything which he can discuss is *Experience*. If we have got to be idealists, we must have some better ground than this for our idealism.

The author's next step is to offer a genetic account of the main types of experience which he classifies as Sensation, Perception, and Thought. The adoption of a genetic method in a book on metaphysics may well surprise us. But Dr Mackenzie is not really a victim of the long prevalent delusion that to describe a thing's antecedents is to analyse that thing (or even to show that it does not exist!). His method is genetic only in name, and he does not once mention stentors, rats, or new born infants. All he is really doing is to give a list of the main types or levels of adult human experience, not in order of time but in order of complexity. And when he says for instance, 'that the dog knows the cat chiefly as something to be chased' what he really means is that on the occasions when we are most dog-like (say in playing a violent game) objects appear to us chiefly as something to be acted on or avoided. And probably this is so. Indeed, Dr Mackenzie seems, if anything, to underrate the part played by the notion of causality (especially in its application to our own actions and the action of other things on us), at the perceptual level of experience.

His account of thought is more open to criticism. To say that a general conception e.g. that of *animal* or *colour*, is formed rather by concretion than by abstraction, "and that concepts are 'more concrete than' percepts, is surely very odd. Is there not a confusion here between two quite different antitheses: that of concrete and abstract, and that of complex and simple? The concept

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of a genus may be more *complex* than that of a species, since in a sense it "contains" all its species. But it cannot possibly be more *concrete*, for being an universal, not an individual existent, it cannot be concrete at all. Similarly, some concepts may be more *complex* than many percepts, but however complex, they are still *abstracta*, whereas a percept (*i.e.* a perceived particular) cannot but be concrete. Indeed, it seems meaningless to speak of *degrees* of concreteness at all. But it may be that this objection touches Dr Mackenzie's language rather than his doctrine.

As a result of the genetic survey, the problem of Metaphysics is reformulated. It now becomes: How far is experience intellectually unifiable? And in the last part of the book six types of "intellectual construction" are examined with a view to answering this question. (The word "construction" seems unfortunate. If pressed will it not lead straight to Solipsism? But perhaps Dr Mackenzie means "construing".)

The six types of construction are the Perceptual, the Scientific, the Ethical, the Aesthetic, the Religious, and the Speculative. We may be surprised to find the third and fourth in a work on metaphysics. But as Dr Mackenzie points out, in periods when Scepticism and Materialism are prevalent, people turn with relief to the moral consciousness, and it comes to be regarded as a way of knowing not merely our duty to the Nature of Things. Dr Mackenzie decides that all six constructions are inadequate. He holds that the Speculative, in its Hegelian form, is the best, but that it cannot be carried through by a finite mind, one obstacle being that we are not omniscient another, the contingency of the particular. Why then bother to speculate at all? Dr Mackenzie answers: "This effort is really involved in all other efforts after intellectual synthesis." But must we not ask, in what sense *involved*? Perhaps only in the sense in which the effort to reach the carrot is 'involved' in the progression of the dokey. That, at least, seems to be Kant's view. And really Dr Mackenzie himself is not much less agnostic. He thinks that a coherent view of Reality as a whole is unattainable to a finite mind. The most we can hope for, he holds, is a view which is "not hopelessly incoherent", and even if (by Hegel's assistance) we reach this, a "modest confidence" in it is all that we are entitled to.

The book concludes with a long *Note on Metaphysical Literature*. This, though completely up-to-date in some respects, is curiously out-of-date in others. Thus we are told that "the prevailing point of view at the present time is a monistic one, with a leaning towards idealism." No doubt this was true in 1901, but at present it is probably true only of Italy and Oxford. And further on we read of "the new Realism" (Dr Mackenzie is obviously not using this phrase in its technical or American sense), that it "rests perhaps mainly on the writings of Avenarius." We should have thought it rested mainly on the writings of Messrs G. E. Moore, Cook Wilsoo, Alexander, and Broad (to mention only English writers), and that Avenarius was rather a "neutral monist" than a realist. Nor, so far as we know, do any of the typical realists just mentioned make the least reference to him. The list of idealist writers seems adequate as far as it goes, yet Croce, Gentile, and (strangely enough) T. H. Green are entirely omitted.

There is one serious misprint in the book. On page 116, last line, *physical* should, I think, be *psychical*.

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The Morality of Punishment By A C EWING MA D Phil With a Foreword by Dr W D Ross (London Kegan Paul Treuch Trubner & Co Ltd 1929 Pp xiv + 233 Price 10s 6d)

Within its limits this book seems to me almost faultless as a piece of ethical investigation. It deals with a subject of great importance of special interest at the present time and it deals with it with a rare thoroughness and completeness. Anyone who reads it will constantly have the experience of thinking of a possible objection or qualification only to find a little later that Dr Ewing has dealt with it fully and allowed just the right amount of weight to it. It shows a nice discrimination in limiting itself to its own proper task the discussion of the general moral principles involved in punishment and in stopping short of the further task of constructing a practical penal code. No one I imagine at this time of day would regard it as a valid criticism of a book like this that it does not enable us to proceed at once by a process of logical deduction to lay down all the details of a system of legislation. Dr Ewing sees quite clearly that to do this it would be necessary to bring in many other considerations beside the general moral principles. But he sees also that a grasp of the general moral principles is an indispensable preliminary. And I know of no other study of the subject that could help so much towards clear thinking about these principles.

The book does not seek to appeal by any graces of literary style and there are few touches of eloquence or humour. It may seem indeed a little too much lacking in liveliness. We may however be thankful to be spared the frequent quotations from the poets in which so many writers on ethics seem to think it necessary to indulge. But the writing does appeal by its clear and simple unpretentiousness which leaves the interest of the subject to speak for itself and the arguments of the writer to be judged on their merits as arguments. And these merits are singularly high. The chief merit seems to me to lie in Dr Ewing's method of collecting and handling his material. This material consists not of a set of general principles to be applied with absolute rigidity nor of a series of personal intuitions by the author but of all the various judgments about the moral status of punishment which have been widely held by popular opinion or by thinkers who have dealt with the subject. And these are treated not as dogmas which have to be accepted absolutely as true or rejected absolutely as false but as various glimpses from different points of view which different people have had of the truth. They have to be developed compared systematized very often modified and corrected to a considerable degree but always allowed for and explained in the completed picture. This seems to me the only method by which ethical investigation can proceed.

Dr Ewing bases his treatment of the subject on the familiar distinction between retributive deterrent and reformative theories of the object of punishment. But it is an important feature of his treatment that these are not isolated one from the other and treated separately but that the connection between them is shown and they are regarded rather as supplementary to each other than as mutually exclusive rivals. In the chapter dealing with the retributive theory he makes the point with considerable force that even if we believe that retribution is good we are not therefore justified in ignoring the fact that reform of a criminal, and even the safety of society that deterrence gives us are also good. We have to make allowance for all these good ends and we cannot demand that all the rest of them should be entirely sacrificed for one. But his main argument against the retributive theory in its strict form is the impossibility of applying it in practice as we cannot arrive at any certain conclusions about the exact degree of guilt involved in each

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particular act. At the end of the chapter however he summarizes with admirable clearness the points on which the retributive theory and the notion of desert as applied to punishment do seem to correspond to moral assumptions too deep and widely spread to be ignored.

With the deterrent theory he seems to be less in sympathy. He recognizes the necessity for society of deterrence from crime. But he points out with great force that the application of this theory exclusively would involve consequences that would shock our moral consciousness too deeply to be accepted. Thus it would involve the consequence that there was no necessary connection between the seriousness of the crime and the severity of the punishment. And it would involve the even more shocking consequence that punishment of the innocent provided the great majority of people could be induced to believe in their guilt would be just as desirable as punishment of the guilty.

The longest and most careful consideration is given to the reformative aspect of punishment. Dr. Ewing recognizes how much of the discussion of this point must be left to psychological investigation and practical experience. But his discussion of the general moral principles involved in the idea of reformation by punishment seems to me extremely good. Some minor points are raised and discussed in the course of the argument and the treatment concludes with the development of the idea of punishment as the expression of the moral condemnation of the community a conception which as it is handled by Dr. Ewing seems to do justice to what there is of truth in all the rival theories. A short chapter on Reward a subject which never seems capable of rousing the same interest as punishment proceeds on the same general lines.

So far I have found it impossible to discover any serious point for criticism in Dr. Ewing's treatment. But I suppose that a reviewer would not be considered to have done his duty unless he had found something to find fault with. So I will say that the next chapter *The Bearing of our Moral Theory on Practice* in which Dr. Ewing explains some of his general ethical principles seems to me the least happy in the book. It is not that it is lacking in shrewd and valuable observations. But it really seems out of place here. Nothing in the main argument depends on the views stated in this chapter. And in his presentation of them Dr. Ewing seems to me to fall between two stools. As part of a book on Punishment the general principles underlying the author's treatment could be summarized very briefly in two or three pages. As a contribution to be taken on its own merits the discussion in this chapter might profitably be expanded perhaps even to the dimensions of another book. But in neither case is it really necessary here.

To conclude my criticisms I would ask whether it was any more necessary for the book to be introduced by a Foreword by the Provost of Oriel. We are always of course glad to hear from Dr. Ross. But the general practice of calling on one scholar to introduce the work of another appears to me in principle objectionable. There is only a point in it if there is any special reason why the readers should be given information from someone whom they know about the author as when a work by a foreign scholar not previously known here is to be introduced to English readers. No such consideration applies in this case. And the adoption of the practice here suggests a lack of confidence on the part either of the author or the publisher that the book is good enough to stand on its own merits. I have sufficiently indicated my opinion that such lack of confidence would be entirely without justification. In fact I know hardly any book which is so little in need of any recommendation other than its own high qualities.

G. C. FIELD

Kant's Conception of God: A Critical Exposition of its Metaphysical Development, together with a Translation of the Nova Dilucidatio By F. E. ENGLAND, M.A., Ph.D. With a Foreword by Professor G. Dawes Hicks (London: George Allen & Unwin Ltd. 1929. Pp. 253. Price 10s. 6d.)

In the history of theology Kant, with his drastic criticism of the proofs of the existence of God offered by the old 'rational theology,' together with his defence of belief in God as a 'postulate' of our moral experience, marks the end of one period and the beginning of another. After Kant, an assurance of the reality of God as the object of religious faith and worship, has been no longer generally regarded after the manner which before Kant's time was in fashion as attainable by means of arguments which abstract from any specifically religious (or moral) experience, and can thus be expected to convince any person capable of understanding them that it is reasonable to follow a course of conduct which may with great probability be supposed to have been enjoined by the Supreme Being whose existence these arguments have established. It is however, not from the point of view here indicated that Dr England in a work showing a close study of Kant himself, and an unusual acquaintance with the now unfamiliar writings of his immediate predecessors such as Baumgarten and Crusius has examined his conception of God. Dr England is interested rather in the question whether the metaphysical conception of God which by his criticism of the proofs alleged in its support Kant is commonly held to have shown to be unavailable for the purposes of the theologian is really invalidated by that criticism for the metaphysician. The central thesis of his book is as the advertisement on its wrapper tells us that Kant's negative conclusions in regard to the metaphysical concept of God do not follow from the critical principles strictly interpreted but are due to the persistence, in critical philosophy, of certain non-critical modes of thought. He shows how important a place this 'metaphysical concept held in Kant's thought during his 'pre-critical' period as is evidenced by the *Nova Dilucidatio* of 1755 (a translation of which is subjoined) and by the version of the ontological argument (as it may fairly be called) which is propounded in the treatise of 1763 entitled *Der einzige mögliche Beweisgrund zu einer Demonstration des Daseins Gottes*. He goes on to emphasize the point that, despite the pains bestowed during the critical period on the proof that God cannot be an object of experience in the sense wherein the things which make up the world studied by physical science are objects of experience Kant notwithstanding finds (in the *Kritik der reinen Vernunft*) a Supreme Intelligence inevitably suggested by the process of reason next (in the *Kritik der Urteilskraft*) necessary to the understanding of organic nature, which except as purposive is inexplicable, lastly (in the *Kritik der praktischen Vernunft*) a postulate of the practical exercise of our reason in the moral life. The circumstance that, while admitting the indispensableness of the conception of a Supreme Intelligence in the three great departments of our thought, Kant would yet not admit it to be a 'constitutive' conception which could be positively affirmed to be involved in the objective nature of the fact which it interprets, but only a 'regulative' idea valid for our apprehension of those facts—the circumstance Dr England regards as due to the survival in Kant's mind of a 'pre-critical distinction between a (noumenal) world of reality 'in itself' from the (phenomenal) world essentially related to our minds, of which alone he allows us to have knowledge in the proper sense of the word. Dr England's own way of putting it is that the categories themselves are not really, as Kant says they are 'constitutive of the objects of our knowledge' so that in denying the ideas to be constitutive,

he has not, as he supposed, placed them in a different class from the categories, and thus they may after all be allowed to give us *knowledge* no less than do the categories themselves. From a different point of view—that taken by the post-Kantian idealists—it may (as Professor Dawes Hicks remarks in his 'foreword' to Dr England's book) the same thing may be expressed—though, in Professor Dawes Hicks and Dr England's judgment less well expressed—by saying that the ideas are no less 'constitutive' than the categories. Both alike derive their being from our intelligence and the only genuine difference between them the difference, namely, that the categories admit while the ideas do not admit, of verification by sensible experience does not seem to justify us in relegating the latter to an inferior position as a source of knowledge when we consider that such verification is in their case not merely unattainable, but from the nature of the case out of the question altogether. It was of course this point that Hegel made when he said in defence of the ontological argument against the Kantian criticism, that God was something very different from the hooded dollars of the instance by which Kant had sought to illustrate the fallaciousness of that argument.

It does not form part of Dr England's design to consider the religious value of the conception of God which he has shown to have played so large a part in Kant's thought of reality. No doubt Kant was right in his implied denial that apart from interpretation by our moral experience (it is not relevant here to consider Kant's refusal to distinguish religious from moral experience), that conception is available for the purposes of religion. But it is of great importance that theologians should recognize the truth which Dr England's book brings out namely, that the God whom Kant has in mind throughout is the 'metaphysical' God of the rational theology which he criticized the *Dieu des philosophes et des savants* of Pascal a famous contrast. Nor, although religion may need a God who can be *Dieu d'Abraham, Dieu d'Isaac, Dieu de Jacob*, yet unless the Being revealed as such be at the same time the *Dieu des philosophes et des savants*, the God in relation to whom alone our experience as a whole is ultimately intelligible, the claim of the religious consciousness to apprehend the true and ultimate Reality must be rejected, and such rejection must in the long run prove incompatible with allowing to religion any status higher than that of the illusion which is all that Freud (for example) can admit it to be.

CLEMENT C. J. WEBB

The Religious Response, An Introduction to the Philosophy of Religion By HENRY WILKES WRIGHT (New York and London Harper and Brothers 1929 Pp 256 Price 6s net)

This volume is an exceptionally able, original, and interesting volume, in which the claim of religion to be a response not to subjective illusion, but to objective reality, is vindicated in view of the conclusions of modern science, and in response to the challenge of the prevalent naturalism. It offers a continuous and close argument, which in a less lucid writer might be difficult to follow, but which the clear reasoning helps the reader to follow step by step. The certainty the author starts from is that "religion is an expression or attitude of human nature in its entirety, of the whole man not of any particular part or special faculty" (p. 4), and 'that since man is essentially a social being any such response of his whole nature will have its social reference and implications' (p. 5). Not only is "religion a response on the part of the human individual to the moral and social values which be

holds supreme "but as faith in the "conservation" of values, "it affirms that the universe is such as to guarantee the realization of these values," and thus is also a response to the real universe" (p. 6). The resulting definition of religion is thus "Religion we then understand as an expression of confidence on the part of human beings individually or collectively, in the goodness of the real universe, which leads to communion with the power or powers believed to control it" (p. 14). Hence the Problem of Religion emerges "Is the religious view of the world rationally justifiable in view of the facts of human experience and the attested conclusions of human science?" (p. 16).

A common impression is current to-day that it is not, and we cannot evade the task of facing "the problem of the *validity* or at least the *tenability* of the religious view of the world," the "belief in a 'spiritual' world" (pp. 24-25). The author discards three conceptions of the spiritual, "as ghost, as unitary, self active being and as inner consciousness" (p. 48), as untenable, because mingling error with truth (p. 49). He has the courage, however, to try and substantiate the claim that "there is a spiritual interpretation of the world" (p. 52). In the world of physical science only the primary or physical properties of the world are explained by enumeration and measurement, and nevertheless "the conclusions of physical science are accepted as true, its laws as really holding because they enable the investigator to predict what events will occur in advance of present perception, in this way to anticipate the course of nature, and so to give a measure of control over its processes" (p. 66). The world of everyday perception is not abstract as is this world of science, for things present, what physical science neglects, "the great variety of different qualities" (p. 68). To this world we make the combined response of sensory-motor mechanisms (action) and active intelligence (appreciation). "The two work in closest functional interdependence: intelligence is aroused in activity by incipient motor responses to sensory stimuli while these movements are directed in completion by the interpretation which intelligence puts on the stimulus" (pp. 75-76). "Perceptions are, therefore, plans of action and promises of satisfaction: they map our courses of possible movements and identify sources of possible satisfaction" (pp. 79-80). Accordingly it may be maintained that "value is a principle of correlation and organization among existing objects as universal as that of physical causation" (p. 82). For uniformities of relation between objects in their aspect of value are discovered by our responses of appreciation. There are three of these. I shall call them the responses of *appreciative understanding*, *practical contrivance and invention* and *aesthetic appreciation*" (pp. 94-95). In other words, the world sustains the pursuit of *truth*, the achievement of *utility*, and the enjoyment of *beauty*: for we discover in it *coherence of character*, objective and not merely subjective according to individual interests, *functional adaptability*, objects can subserve human purposes, and *significant harmony*, satisfying the aesthetic sense. These values can be verified by corresponding human activity, which "extends itself on the bodily side into the external world of outward movement and common observation: insight and understanding express themselves externally in oral and written discourse, practical contrivance and invention in mechanical instruments, methods and appliances, and social customs, procedure and institutions, and aesthetic perception in artistic creations of all sorts" (pp. 141-142). This verification is not in individual experience alone, but in social history and thus the three responses in their varied results become "part of the spiritual heritage of humanity." Mankind finds and makes its home in the world. This system of values is objective, and constitutes the spiritual world, "just as real as the order of physical events" (p. 151). "The realm of ends (as it has sometimes been called) is a

developing system a diversified unity which is constantly revealing new possibilities of expansion and enrichment (p 155) Because this realm of ends is realized within a society additional values emerge mutual insight and understanding co-operative endeavour and æsthetic sympathy (p 163) and these are both personal and objective man finds himself as he makes himself at home in the world he discovers the spiritual order in the world and develops the spiritual order in himself Can belief in the spiritual order satisfy the needs of religion or must genuine religion go farther and affirm belief in the existence of a Supreme Spirit a Cosmic Intelligence a Divine Purpose or a Personal God? (p 166)

While the belief in the spiritual order is the irreducible minimum of religion yet belief in God or gods has held a central place in the religion of mankind (p 168) This realm of ends leads us to suppose that conscious intelligence and rational purpose exist in some more comprehensive and enduring form than we are able to observe in the case of human individuals (p 174) and further the universality of man's rational outlook which associates him with others in the community of intelligence does equally require for its explanation the conception of an all-comprehensive intelligence which embraces within its permanent unity all intelligent individuals (p 177) In other words the meaning and value of the world on the one hand and the civilization and culture of mankind on the other hand their mutual correspondence point to one source possessing all the qualities which the world discloses to man and man displays The type of religion to which these conclusions point must be compared with and related to morality as the effort to realize through appropriate courses of action the greatest values of human life to attain what is sometimes called the *highest human good* (pp 189-190) The values which morality strives to achieve partially and gradually religion through communion with God recognizes as already reality in Him The method of this communion is threefold *prayer devoted service and worship* corresponding to the three methods of human intercommunication articulate speech practical invention and construction and æsthetic perception and expression (pp 213-214) The use of these three methods involves a constant interchange between the individual and society On the one side we have the original insights achievements and intuitions of individuals on the other side we have the socially accumulated fruits of human communion and devotion preserved in the literature of prayer and meditation in historical and legendary narrative and in rituals of worship (p 243) There is always the danger of religion becoming stereotyped Hence the need of asserting the right of private judgment and in so doing *the individual* will not only preserve his own integrity of mind and spirit he will serve the best interests of his fellows as well For only under such conditions of complete personal freedom can he make any original contribution in thought or action which will enrich the religious experience of humanity (p 245) Personality is the positive and fertile principle which gives to human life such permanent meaning and value as it possesses (p 247) What may be claimed for Christianity is that alone among universal religions it has ascribed absolute value to personality that it has indeed valued human life and character solely on account of its personal meaning And this personal meaning it has understood in terms of functional contribution to the universal social community (pp 250-251) Further the author maintains that it is the peculiar distinction of Christianity that it exalts in the person of its Founder a life and character which perfectly exemplifies and effectively communicates these values in their complete and convincing unity (p 252) While the ideas successively

developed in this sustained argument are often expressed in unfamiliar terms, and the tone is severely objective (the personal equation being excluded), and thus the volume may at first leave the reader cold, yet on closer scrutiny the believer, and even the Christian believer, will gratefully recognize that the author has presented a convincing demonstration that religion can fully justify its world view, not only for the scientific, but also the philosophical thought of to-day. The readers of the volume will be grateful to the author for the confirmation of faith he with so great ability here offers

ALFRED E. GARVIE

A Study in the Logic of Value By MARY EVELYN CLARKE, Ph.D. (London: University of London Press, Ltd. 1929 Pp x + 330 Price 7s 6d)

While ethical theories have always been concerned with value, they have been usually concerned with it in its moral aspect. At the present time, when there seems to be renewed and increasing interest in the nature of value, the tendency is to consider the problem in its general character. The advisability, if not the legitimacy, of this procedure is open to question in view of the extraordinary vagueness of the term value, in view of the difficulty of stating clearly the nature of the problem itself, in view of the complicated issues involved, in view of the reasonable doubt whether the term value is applicable in an unambiguous sense to the spheres of ethics, logic, and æsthetics, and of the possibility that one of these spheres be regarded as pre-eminently the sphere of value.

Dr. Clarke in her book *A Study in the Logic of Value* deals with the general problem, and though in consequence her discussion is obscure on some points and leads to the assertion of the largely instrumental character of moral and logical values and the acceptance of æsthetic values as the only values without any reasoned argument in support, yet it is a merit of her book that she is aware of the confusion in the problem of value due to the presence of metaphysical, epistemological, logical, and psychological factors, and that she endeavours to assign each to its respective place in order to clarify the issue so far as it lies within her power. If there is any unsatisfactoriness about the treatment and the results, the major part of the explanation is to be found in the peculiarly subtle nature of the problem and in the fact that the attendant complicating issues are themselves all subject to controversy and involved in confusion.

The question with which Dr. Clarke is throughout concerned is "Can the validity of the value judgment be determined as psychologists claim, by a study of the genesis and history of value, or does this present a separate problem to be investigated after the genetic account is completed?" (p. 7). The primary problem in her opinion, is the validity of the value judgment, and in consequence the primary issue is an epistemological and a logical one, not a psychological one. Hence she opposes "psychologism," which is the manifest illness of some theories and a subtle source of infection in others. It confuses value with the experience of value or value with the act of valuing. No analysis of subjective activities sheds any light upon the real problem at issue. It is inadequate to determine in what respects the object aimed at is good, and the logic of value is a subject that falls entirely outside the domain of psychology. Value is related to valuing in the same way as any universal is related to any act of awareness, and the process of valuing is not affective or emotive, or of the nature of interest or desire, but is cognitive. Every attempt to account for value in psychological or naturalistic terms involves a *petitio principis*. Dr. Clarke's own view is in line with the view

of Professor G. E. Moore in particular and with those of Russell Broad and Laird. The significance of the term value is sufficiently indicated by saying that it is what ought to be—valuing being merely the recognition of what ought to be. Value itself is a unique determination of objects apprehended through judgment but subsisting like any other predicate independently of the judging subject (p. 255).

The metaphysical problem is one that arises out of the solution of the problem of value. What does the given solution enable us to infer concerning reality is the question to which Dr. Clarke addresses herself in the last but very interesting chapter. The reality of value and the value of reality are two distinct ideas. The implications of her view are such as to invalidate the idealistic doctrine that the nature of value is such that we can infer that reality is spiritual, is valuable, and is a unity. There is no sufficient ground for asserting any of these predicates of reality. The mere fact that things having value appear in the universe is not sufficient evidence for asserting that reality is one or many. There is no ground for believing that reality is the supreme value or that it has any value at all. There is no reason to suppose that wholeness or comprehensiveness is the criterion of value. All that we are entitled to assert is that some real things have value or that some aspects of reality have value.

These conclusions lack the boldness which marks idealism but they are eminently sane and commendable. Yet it must be acknowledged that Dr. Clarke's treatment of the problem creates difficulties. There is an obscurity in her discussion due to the terms existence, being, reality. In designating value as that which ought to be she seems to think that ought to be has a clear and indisputable meaning. Has the term ought any significance in relation to value regarded as a determination of *real* objects or does it involve a relation in which conscious beings are one of the constituents? Value as understood by Dr. Clarke seems to occupy a serene and detached position of *otium cum dignitate*. It is not logically deducible from anything else nor does anything else seem deducible from it. Though Dr. Clarke attacks the problem of value from an epistemological standpoint she does not notice that this feature of value suggests an analogy with the historical problem of primary and secondary qualities. Presumably she has considered that this problem has been solved in favour of realism but even if so there is a point which remains unaffected by that solution or even by an idealistic solution. This point is the real basis of the distinction for the latter turns upon the existence or non-existence of logical connections between the properties cognized in the universe. Value seems just to be a property that has no logical connections with anything else and it is for this reason and because of the difficulties arising from it that resort has been had in some quarters to the idea of emergence. It is just possible that it is a difficulty of this kind that provides the motive to some theorists for stressing a psychological constituent in the nature of value. If value is a determination of real objects is purely objective and is cognized one is prompted to ask what about it? Nothing seems to follow. Does it matter in the least whether one knows value or even if he does know does it matter whether he does anything? Is cognition the only form of subjective process coming into play in the apprehension of value? May it not be that in regard to ultimate and undefinable properties the way in which they are experienced is essential to understanding what they are? In any case there is no reason to suppose that the epistemological distinction of subjectivity and objectivity enables one to decide whether subjectivity in the form of a conscious creature is or is not an essential constituent in the nature of value. The question at issue here is what are the objects that have

value, and an epistemology like that of Dr. Clarke may quite consistently permit of the answer that such objects are conscious beings or states of conscious beings. That answer may or may not be valid, but Dr. Clarke says nothing about value which will render a decision possible. In the last resort it will remain a question whether people do or do not agree as to what objects are valuable and there is high probability that there will be disagreement as to *where* value is to be recognized.

B. M. LAING.

A Study in the Philosophy of Personality By HILDA D. OAKELEY, MA
(London: Williams & Norgate Ltd 1928 Pp 192 Price 5s net)

This is the substance of four public lectures delivered at King's College, London, now republished in this form. It is a book of considerable interest and importance, but it is not at all easy reading. The difficulty arises not from any defect in Miss Oakeley's powers of exposition, but rather from the special method which she has chosen for the presentation of her argument. She has not given us a systematic presentation of her own point of view, nor a systematic criticism of other writers. She confines herself, rather, to a series of attempts to define her own attitude, in the light of her special theory, towards various views put forward by different writers on different subjects. The result is that, though her individual criticisms are perfectly clear, and very often admirable in their force and point, her own philosophical point of view remains to the end extremely difficult to grasp as a systematic whole, and I am far from certain that I have grasped it.

Her central position consists in her insistence on the vital significance of individual personality. The private and separate character of each personality, she maintains, is a fundamental fact, irreducible to anything else, which we ignore at our peril. All experience, if I understand her rightly, is ultimately private and incommunicable. The experience of value, which is the highest experience of which we are capable, seems finally to consist in little more than this appropriation of what we experience by our private and separate personalities. She emphasizes throughout how all our knowing and thinking is coloured by our distinct individualities, so that the more it means to us the more essentially private it becomes. From this point of view, she criticizes various thinkers for their failure to realize the full importance of individuality, and these criticisms occupy the bulk of the book. Their value is undoubtedly very great. I would single out as particularly worthy of careful study the criticisms contained in the chapter on History, and also the discussions in the chapter on Social Forms. A mood of admiration is also due to the wealth of knowledge and understanding of other thinkers which Miss Oakeley displays within such a comparatively brief compass as this book.

For her criticisms in general, then, I can have nothing but praise. But I still remain unenlightened about the positive doctrine implied in these criticisms. Of course, there are obvious facts which are expressed by talking of the private and personal nature of our experience and our judgments. But Miss Oakeley's view goes very far beyond calling attention to these. Individual and separate personality is the very centre of her philosophy. She seems to feel not only that we must make full allowance for it, but that we must not make allowance for anything else, and what the positive implications of this are I find very far from clear. I will mention three points on which I should welcome more detailed explanation of Miss Oakeley's position.

The first is the obvious question, What do we mean by personality? The negative features of it, its finiteness, its privacy, its separateness from other

personalities, are clear enough. But Miss Oakeley insists that there is a positive character about it also. Indeed, it seems to be in the development of this positive character that the attainment of value consists. But what this positive character is, is far from clear. The difficulty, with which I do not feel that Miss Oakeley grapples seriously, is that when we begin to say anything about any personality, its experience and its activities, we find ourselves describing these in terms which are equally applicable to other personalities, and thus begin to get beyond the privacy and separateness of the individual.

My second difficulty is closely connected with this. Miss Oakeley sees clearly that in ethical judgments, though they are our own personal judgments, we always seem to be claiming universal validity, which transcends the merely personal. Miss Oakeley seems to suggest that this universal element may be found in the universal claim of individual personality itself. But is not this to reduce it to a merely formal universality? The one common fact which unites us seems to be the fact that we are all separate and different. Analogous difficulties obviously arise with scientific and philosophical judgments.

My third difficulty arises in connection with a doctrine to which Miss Oakeley obviously attaches great importance, but which she only mentions in casual and brief allusions. She says more than once that, though we are all individual personalities and therefore absolutely and ultimately finite and separate, yet it is an essential part of our nature to be always striving to get beyond this finiteness and separateness. On the face of it this seems to present us with a dilemma. Either this striving is necessarily vain and futile, and hence of no real significance, or else if it is of real significance, it seems to point to the fact that the separate, finite, individual personality is not the last word which Miss Oakeley represents it as being.

There are one or two trifling misprints in the book. "Omnia" in the Latin quotation on p. 80 should surely be "tempera." And "Theagenes" on p. 139 should certainly be "Theages."

G. C. FIELD

The Incarnate Lord By L. S. THORNTON, M.A. (London: Longmans, Green & Co. 1929. Pp. xxxiv + 490. Price 21s.)

Only a theologian as completely at home in his subject as Mr. Thornton could write a truly critical review of Mr. Thornton's volume, and the review could only properly appear in a theological journal. Writing in this *Journal*, and being no theologian, I can only call the reader's attention to the magnitude of the task Mr. Thornton has set himself and the high qualities shown in the treatment of it. If we grant that a true philosophical interpretation of the world must take account of man's religious experiences and aspirations, no less than of his pursuit and experience of truth, beauty, moral excellence, and that, for this reason, such a philosophy must be theistic, we are at once confronted by a further question about the relation of a philosophical theism to the doctrine of God presented to us in the Christian Scriptures and the life of the historical Christian Church. Is the substantive truth of Christianity a doctrine of God which has historically been developed under the influence of the life and teaching of Jesus Christ, but might equally well have been reached in other ways, and is, in fact, shared by Christianity with other forms of religion? Or is it central to the Christian conception of God and of God's relation to man that in historical fact humanity has been intimately penetrated by deity in the personal life of just that one member of the human race whom the Christian Church worships? Is it in fact true that in the person of Jesus

Christ the Creator has entered into a new and unique relation with his creatures and that this relation is an abiding one, so that the actual humanity of Christ becomes the source of a qualitatively new life to the members of the society of which he is the living and abiding head? This is, of course, the ultimate issue at stake between two ways of regarding Christianity which we may not unfairly call respectively Liberal Protestantism and Catholicism. It is also for the metaphysician the issue between two very different ways of conceiving the relation between God and the creation or, to speak more abstractly two ways of conceiving the relation between eternity and time. Is the divine and eternal simply transcendent, simply other than the temporal or does it at once transcend the temporal and interpenetrate it? Or, from the other side the issue is whether the true good of man is to be found simply in filling his place in the temporal order or in rising through it to an eternal level of being.

Mr Thornton's volume is a powerful plea for the catholic answer to the problem the answer which has from the first been given and is still given by all forms of orthodox Christianity. The task he has set himself is not merely to show as there is comparatively little difficulty in doing that the doctrine of the person of Christ adopted by the great Church in the creed making ages was no arbitrary theosophic speculation but arose from a resolute anxiety to safeguard a view of God and God's relation to man necessary as the intellectual justification of the practical Christian life with its characteristic experiences of delivery from sin and spiritual quickening and that this whole position would be compromised by the various heretical Christologies, ancient or modern (Ebionism, Apollinarism, Adoptionism, Humanitarianism, and the rest). It is further to be shown that the specific conception of the relation between God and humanity presupposed in the orthodox doctrines embodies, though it could not have been deduced from the only conception of *τὸ θεῖον* itself which can really satisfy the demands of an adequate metaphysic. Here would be Mr Thornton's reply to the familiar contention that the great dogmas of orthodox Christianity presuppose and are only significant in relation to a Platonic-Aristotelian scheme of metaphysical thought itself inadequate to the real world as we have come to know it, and are therefore for us superseded. Where Dr Gore would rejoin that though the language of the metaphysical scheme presupposed is Greek, its significance is universal, Mr Thornton rather answers that the scheme was inadequate in an important respect the static and unhistorical character of its categories, but that the real significance of the experiences upon which the traditional theology is based becomes even more apparent than ever when we replace the categories of Aristotelianism by those of a more historically minded philosophy.

It is natural that in working this line of thought Mr Thornton should find himself very much at one with the eminent scientific philosopher who is doing so much at this moment to introduce a more historical way of thinking into the physical sciences themselves. In his view of the relation between 'process' and eternal being the author stands on the same general ground as Dr Whitehead in his philosophy of organism. (I hasten to reassure the reader by adding that the general position is stated in much the same way as in Dr Whitehead's simpler and earlier versions of his doctrine, as found e.g. in *The Concept of Nature*, without any of the complicated and often bewildering detail or perplexing terminology of *Process and Reality*.) It is held and I am sure that it is held rightly, that historical becoming itself cannot be intelligibly described merely in terms of temporal succession, but requires as its basis the notion of what Dr Whitehead calls the 'ingredience' of eternal objects into 'events' and Plato that of *γενεσι, ἐκ, οὐρανῶν*, and again, that the

historical world is, as Whitehead also insists, a graded hierarchy. There are two further conceptions essential to Mr Thornton's metaphysical scheme which do not appear in the work to which he most frequently refers, *The Concept of Nature*, though the first of them has a prominent place in *Science and the Modern World*. Our thinking is not completely historicized so long as we conceive the "eternal order" itself as a realm of "universal essences," or "possibilities". we have to think of the "eternal order" as itself originating in the ultimate eternal actuality of God, which is utterly individual (So far as I understand the very difficult language of Dr Whitehead's latest work, this is, I believe, his own conviction, though in much of what he has to say about the distinction between God and "creativity" he seems to me to be unconsciously retracting his own assertion) And it has further to be added that though in man, as a spiritual and personal being seeking his highest good, the hierarchy of the creatures seems to reach its highest development—Mr Thornton does not reckon with the "angels" though I do not see that to do so would have affected his argument—the universal ethical experience of non-attainment shows that the end of the whole process, the achievement of a "participated eternal life of the creature cannot be reached simply by effort from the creaturely side without an outgoing fresh movement on the side of the eternal. This is why "secularism" in all its forms is hopeless, and why a genuine religion must always be one of revelation, redemption, and "grace". From this point of view the culmination of the "redemptive" movement in an actual interpenetration of humanity by deity in an historical individual, though incapable of being "deduced" appears *ex post facto* as the right and natural completion of the whole cosmic scheme.

The writer of the present notice is personally too completely sympathetic with the main position to feel either the right or the desire to criticize. He would heartily commend Mr Thornton's volume to all readers of this note. Whatever their judgment of it in other respects it should at least convince them that an "unreduced" Christianity is, not necessarily the product of an "antiquated" philosophical or scientific outlook on the world, there is a great philosophy behind "orthodoxy," and a philosophy which is still well able to hold its own.

A. E. TAYLOR

The Son of Apollo Themes of Plato By F. J. E. WOODBRIDGE (Boston and New York: Houghton Mifflin Co. 1929. Pp. ix + 272. Price 4 dollars.)

It is a mark of the greatness of Plato that many people are able to read him without the slightest acquaintance with his modern commentators and exponents. Some of his works have passed into the patrimony of common culture. They stand, as great pictures do, among the things that the humanity in us apprehends and responds to, things we may all delight in, although we are aware that they have properties and connections open only to specialized erudition. Our reactions to them are total. We are affected rather than instructed by them, their impact on us is much more moral than intellectual. All which means that they come before us as literature. That they really are literature, some of them great literature, is happily beyond dispute.

The difference between this total human approach and the academic (here a most ironic word) approach is enormous. The latter is for the most part not a refinement but a destruction of the former. In the former our blood warms and leaps in sympathy with a collection of personalities more real

and varied than perhaps anywhere outside the plays of Shakespeare and the field of life itself. In the latter we look through cold eyes at a set of emaciated ideas: we reduce the dialogues to their intellectual content and because this content is philosophical and because philosophy aims at system and because the past has found a system in them and made it into a tradition we too seek a system in them lest we be charged with poverty of insight.

The results of this search are disintegrating the assumptions that prompted it. We are preparing ourselves to admit that despite the vast amount of scholarly work that has been done we have a much less confident conception of Plato as philosopher than our fathers had. Indeed we are already beginning to say that whatever system he had is hiding behind a mass of downright inconsistencies, empty sophisms and subtleties, irrelevancies frankly flippant or just tedious and romantic fairy tales. From this conclusion the step is short to the position that though Plato lecturing in the grove of Academus may have been a philosopher, he is not one in his writings, which is all we now have of him except a heap of incoherent—partly divinizing, partly spiteful—legend. This position is to be distinguished from the long familiar view that his dialogues give a popularized expression of an esoteric philosophy, for it means that his writings are not intended to be philosophical at all, but literary with all the versatility of theme and variety of purpose, mood, and manner that the literary impulse requires. Looked at in this way they lose much of their perplexing character and most of their supposed faults. Contradictions and fallacies are grave faults in a philosophical treatise but in literature, in a form of writing that represents the *life* of mind, picturing the swift movements of thought in the intimate context of typical personalities, making of thinking an exquisite drama, violations of logic are a part of its realism, and fairy tales the savour and scent of its idealism.

The failure of philosophical scholarship then is against its own will dissolving the spectre of Platonism as a system and handing back to us Plato as a man. The philosopher cannot claim the monopoly over him. Anyone with sensibility and the elements of general culture may read him and enjoy him without fear of seeming pretentious.

Professor Woodbridge's book is a confession and justification of this growing attitude. It is altogether charming and at the same time deeply impressive. The competence and content of scholarship grip it firmly through out, but it is softened by the inwardness of his appreciation. In complete conformity with the nature of this appreciation, the author has written not a treatise but a series of essays, appraising with the criticism of both heart and head the central themes of Plato which he holds are not the theory of Ideas and the nature of knowledge, but the dream of a perfect city, the principles of a complete education, the ideal of a disinterested love, and the mystery of death. Themes like these, the subject of wisdom rather than of science, raise the language that treats them to a high level, and it is the proof of Professor Woodbridge's sympathy and insight that his own book by the consistent beauty and power of its sentences, deserves to be accounted literature and read for its own sake. It is the only book of Plato I know that can be compared with Pater's *Plato and Platonism*. For this reason it has seemed to me necessary not to summarize its contents but to explain its attitude, which is one that ought now to be tried out, despite its inadequacy for dialogues like the *Parmenides* and *Laws*, and parts of the *Tymaeus*. The book is an exceedingly distinguished contribution to the understanding of Plato, and valuable alike to the specialist and general reader.

T. E. JESSOP

Ethical Problems, an Introduction to Ethics for Hospital Nurses and Social Workers By BEATRICE EDGELL, D Litt., Ph.D. (London: Methuen & Co., Ltd 1929 Pp x + 149 Price 5s net.)

This useful textbook is an expansion of lectures given to Nurse Students at a summer school held at Bedford College. The aim is said to be, "to give a concise statement of ethical principles and to apply these principles to some of the problems that arise in the professional work and life of the hospital nurse and social worker." All who seek a straightforward introduction to ethics will find the book helpful, but Professor Edgell bears in mind particularly those whom she is primarily addressing. Many practical moral problems are discussed which every nurse, one may suppose, must have to face at some time or other in her career, problems arising from conflicts of loyalty to herself, her patients, her superiors, her subordinates, her profession.

It is in order to lead up to such a discussion that the inquiry into ethical principles is undertaken. In this first part of the book there are, of course, points which the champions of different ethical schools might dispute, but the general effect is an extremely lucid and in the main uncontroversial summary. After a statement of the scope of the book, comes a psychological chapter on 'behaviour and conduct.' This contains a circumspect account of the conditioned reflex instinct and the acquiring of values other than those relative to pure innate tendencies. Though the concept of instinct is used freely, it is tempered by insistence on the part played by intelligence in the transformation of behaviour. Value, psychologically regarded, is said to be "the character of any object in virtue of which it arouses an affective or conative attitude." The present reviewer regrets that "affective" was introduced into this sentence, since affect appears to be consequent on, not prior to valuation. The word "conative," by the way, surely needs explanation in a book of this sort. This psychological chapter closes with a discussion of psychological hedonism, of conflict of motives, and of resolution and habit. The next two chapters are ethical. The moral judgment is said to refer, not exclusively to intentional conduct, nor to motives, nor to consequences, nor to character, but to "the whole of the personal side of conduct." The meaning of the moral judgment is then discussed, and after a process of elimination of erroneous meanings, it is found to involve certain ultimate characters, namely, authoritativeness, conformity to a pattern, relation to an end, and universality. The concepts of moral law and the moral end are now expounded. The latter is said to be the more fundamental, and the highest ends are said to be relative to personality. Here one would have liked to find a more definite statement of the supreme practical ideal as a harmonious system of interdependent persons. But the author is, of course, concerned throughout rather with personal intercourse than with the social whole.

Part II applies the principles of Part I. It begins with a psychological description of the growth of the self and the formation of sentiments. The character of an individual is said to be expressive of the general trend of his sentiments. It is argued that the sentiment of self-love is not the only possible controlling factor, and that a sentiment for a divine Power or Spirit may become the supreme sentiment, from which the sentiments for moral qualities may be derived. The author might surely have added that in the absence of such a religious sentiment, the control may be exercised quite effectively by some other sentiment, such as a sentiment for the world-community. Among the conditions which determine the relative strength of sentiments is said to be the comparison of their ends in thought, and we are told that "in studying a collocation of ends it may take as painstaking an analysis to trace out the cogitation of reasons as to detect the fermentation of the unconscious."

After an account of free will in terms of self-determinism, the author embarks on the discussion of practical problems, referred to above. In coming to a decision, she says, we should always beware of judging in relation to some one sentiment, instead of in relation to the whole system of sentiments. The book closes with a discussion of vocation, of the particular kind of native endowment which justifies a woman in becoming a nurse or a social worker.

W. OLAF STAPLEDON.

The Growth of Reason By FRANK LORIMER (London: Kegan Paul, Trench, Trübner & Co. 1929. Pp. xii + 231. Price 10s. 6d. net.)

The kind of behaviour that is called "thought" is admittedly bound up with symbolic processes. Just how are the two related? Or more specifically, 'What is the rôle of speech in the life of mind?' This is Mr. Lorimer's problem, and he attempts to solve it genetically, basing his study on the great mass of experimental data that is now available. He defines a symbol as 'an item established in social conduct or in reflective thinking as a functional substitute for certain other items in social or individual behaviour' (p. 87). A "symbolic process," on this definition, is one in which the response of the organism is, or is conditioned by, one of these items that function as substitutes. Some hold that the items *are* the thoughts; others that they are the vehicles of thought which is a unique activity in minds. Mr. Lorimer suggests that a proper emphasis on the continuity of organic and symbolic process will reconcile these positions. His view, if I understand it, is as follows. An organism is a more or less constant pattern that is preserved by means of the changing and 'implicit' interaction of its factors, in adaptation to the initial rapid changing of other factors, both within and without (p. 8). The interaction of factors Lorimer calls 'tension.' There is consciousness where there is a certain degree and complexity of tension. Thoughts or 'ideas' are "minute implicit processes" (p. 20) within the central nervous system. Through the combined effects of organic, environmental, and, above all, social conditions sounds become (by the mechanism of the conditioned response) the "consummatory reactions" or stimuli for certain of these minute processes. Thus words are overt reactions continuous with the minute reactions that are thoughts. Words and thoughts are the same in kind, and in their function which is to restore equilibrium. Mr. Lorimer's cardinal thesis is the continuity of speech with other physiological and social happenings, and its continuous evolution in all its organizations or "structures" out of organic behaviour at a lower level (p. 149).

Chapter I traces the evolution of 'intelligence' in the organism prior to verbal activity. In the growth of intelligence, or power to control life, in dumb animals. Three stages are drawn.

(1) "The organismic correlation of excitation transmission processes." Here there is excitation, followed by a happening in the organism that restores equilibrium. Thus a little amoeba withdraws when pricked, whereas a piece of putty would sit and be picked to pieces.

(2) The development of a nervous system that is, of tissue specially adapted for the transmission of excitation, and providing a basis for the correlation of excitation patterns, that—through their correlation—can re-enforce or inhibit each other. Lorimer, as we shall see, regards re-enforcement and inhibition as the basis of logical thinking.

(3) The evolution of patterns. (a) Intuition patterns, where processes are kept in "sustained excitation," thus providing a strong selective factor. (b) Per-

ceptual patterns, where the organization of the neural pattern corresponds to the pattern of external situations

Chapter II is a valuable and readable account of the development of language in children—from instinctive cries to significant speech. Four stages are here distinguished, that correspond in a rather striking way with Head's types of aphasia: (i) Babble or lallen—when the tongue is used in play, (ii) The building up of kinesthetic and auditory-vocal organization, through the tendency to repeat a certain sound in a situation which has evoked it before, (iii) Nominal Integration where a certain sound becomes the conditioned reflex in a certain context, or the stimulus for a certain type of emotional, motor, or intellectual response, (iv) The organization, in the latter half of the second year, of words into sentences.

The development of this last stage is traced in Chapters IV and V. It is maintained that "symbolic structure is a gradually differentiated structure *within* the total physiological and social context of linguistic activity" (p. 63). Relying on the anthropologists, Mr. Lorimer finds four universal principles of *syntax* and maintains that they are in essence psychological: (1) The distinction between substances and verbs is that between words that are complete in themselves, as compared with those that suggest further explication, (2) The use of the sentence or proposition corresponds to the "consummatory solution" of a process of tension, (3) Logical categories correspond to the biological value of certain characters, (4) The distinction between *nexus* and *function*, or between subject predicate and relational proposition corresponds to the distinction between a "sustained tensional process," and the "unitary organization of several symbolic acts" (p. 103). *Abstraction* is the "recognition" of a subordinate factor—relation or quality—within and common to a series of processes, and an interesting account is given of the growth of the concepts of space, time, and number. While he emphasizes that words are the "instruments" of this analysis, I do not think that Mr. Lorimer anywhere stresses what seems to me the chief point, that words *conserve* thoughts, they make it possible, as it were, to *repeat* the organic process for purposes of analysis. In this connection, why is the relation of implication between characters not treated as one type of abstraction among others, and the relation of implication between propositions as derivative from it? Mr. Lorimer's theory is that implication corresponds to the stimulation of one implicit element by another. But surely such stimulation will be present in trains of purely associational thinking.

What is involved in Mr. Lorimer's contention that speech "is continuous" with organismic process or thought comes out most clearly in Chapters V and VI, where he deals with reasoning. It is maintained that thought is "implicit tensional behaviour prior to linguistic activity" (p. 149). Organic activity is organized prior to the use of symbols. Differences in intelligence depend on differences in "span of tension," or incapacity to correlate implicit processes, as well as on factors like interest. Thus, on the one hand, language is conditioned by, and reflects the nature of thought. Logical form, as distinguished from linguistic form, is grounded in organismic rather than environmental structure, so negation and assent correspond to inhibition and re-enforcement, implication to the stimulation of one implicit process by another, and deduction to the "leading from" one process to another. On the other hand, thought is "reorganized and reconstituted" by linguistic process. Mr. Lorimer distinguishes between thought and reason: "Reason is thought controlled by explicit statement" (p. 122). It depends not only on the acquisition of a vocabulary, but on the establishment of systems of inference and reference, and these Mr. Lorimer seems to regard primarily as mechanisms of verbal associa-

tion Thus logical contraries are pairs of terms that operate automatically to inhibit each other

There is valuable material in this book The account of experimental results makes interesting reading, and the interpretations of them are significant. But Mr Lonner's phraseology is not incisive, the salient points of his argument are not stressed or elaborated, and a certain amount of symbolic activity has to be initiated by the reader There is a slight sketch of the author's epistemological position, and in the last chapter on "Logic and Society," which I wish everyone might read, Mr Lonner makes a plea for the importance of adequate verbal organization as a means to the relief of societies and individuals from emotional mal-adjustment and conflict

HELEN M SMITH

Instinct and Intuition A Study in Mental Duality, By GEORGE BINNEY DIBBLEE, M A (8vol, pp 394 London Faber & Faber 25s net)

In this closely reasoned and stimulating volume Mr Dibblee brings together a very large number of considerations in support of his thesis that, over and above 'intelligence', we possess two extra-conscious faculties, the products resulting from the working of which profoundly influence our conscious minds These faculties, each of which operates in a quite definite manner beyond the sphere of awareness are 'instinct' on the one hand and 'intuition' on the other Their results, which enter into awareness, are impulse and insight

Of recent years an enormous amount has been written upon instinctive process and it is generally agreed that however "an instinct" may be defined, its conscious aspect consists in a forward looking inclination to deal in more or less definitely patterned response with the stimulus provoking it Though there is a relation of biological utility between the behaviour provoked by the stimulus and the goal reached by it, which we can appreciate intelligently, the distinction drawn between purely instinctive and intelligent behaviour lies in the fact that the creature acting instinctively has no cognizance of that relation nor of the worthwhile end realized by its behaviour Clearly, if a definite neural substrate is to be assigned for the activity which thus issues in inclinations to patterned responses, this should be sought in some area of the nervous system which is not already on evidential grounds related to 'intelligence' The cortex being accepted as the seat of "intelligence," the seat of 'instinct' will be elsewhere There is evidence pointing to the basal structures of the brain in this respect

On the other hand, there is the question, in regard to which there is much less agreement, as to the nature of 'intuition,' and even as to its occurrence in the sense in which Mr Dibblee uses the term He writes "Intuition can be defined as a mode of intelligence unconsciously exercised by man only among the animals Its nature cannot be ascertained by introspection nor by examination of its processes, which are in their earlier, longer and more important stages, wholly extra conscious From its very brief later stages it may certainly be pronounced to be solely a mental operation in a sense in which perhaps instinct with its close affective relations may not be In both stages our knowledge of intuition must chiefly be obtained from its results, which are presented like those of instinct in a complete form to consciousness " What Mr Dibblee seems to mean is that there are unconscious processes akin to those of conscious "intelligence" by means of which conclusions are derived from premisses We become conscious of the conclusions, but we are not aware of how we came by them There is no doubt evidence that unconscious

mentation—or cerebration—does occur but the principle involved would seem to cover far more than Mr Diblee suggests. Associations determining tendencies and the like are as unconscious as are the processes by which ready made intuitions are formed to become consciously apprehended. Indeed all cognitions may be said to arise from unconscious experience and there is evidence that dimly apprehended or even entirely unapprehended mental items and relations have their definite effect upon conscious processes. However intuition may be enlarged or contracted it is more akin to intelligence than to instinct and Mr Diblee concludes that the seat of the intelligent intuitive faculty is certainly the cerebral cortex. Apart from the great interest from the purely psychological point of view of instinct and intuition this question of physical localization is important especially to those who like Mr Diblee are interactionists. He draws heavily upon the physiological work of Head, Rivers and Parsons—and particularly Parsons—in support of his localizations and marshals a vast amount of the soundest evidence as well as some which is more speculative to the development of his thesis.

Quite aside from the theoretical interest of the volume in its discussions which are amply documented of the psychological and physiological aspects of the problems of instinct, intuition and intelligence the general point of view of Mr Diblee is thoroughly interesting. He is neither a professed psychologist nor physiologist. He has approached his problems from another angle. He is primarily an economist. His interest in economics had previously led him to the formulation of a psychological theory of value. The same interest more embracing and more penetrating has led him to the study which has issued in this book. He has read prodigiously and has incorporated most if not all of the results of recent and contemporary investigation in his volume not neglecting even psychoanalysis. But he has selected his material without the prejudices of a professional viewpoint which a psychologist, psychoanalyst or physiologist might have brought to the task. Moreover in handling his problems and advancing his materials towards their solution he has made a very considerable use of his knowledge of the work of the philosophers from Descartes onwards.

Not only will this volume though technical provide interesting reading for the instructed layman it will provoke sympathetic if also critical thought on the part of physiologists and psychologists alike.

F. AVELING

General Psychology for College Students By CARL N. KETROD Ph.D. (New York: The Macmillan Co. 1929. Pp. xv + 392. Price 8s. 6d.)

The style and to some degree the content of this book make it one of the ablest and most scholarly of the Behaviourist contributions to psychology. The book is divided into three parts—

1. The principles of behaviour
2. The development of behaviour
3. Characteristics of adult behaviour

Under each of these heads the writer gives a selection of the results of modern work in psychology and presents them in a clear and interesting manner. At the end of each chapter are a number of original and well planned exercises that should be of great help to the student. The reviewer was at first well impressed by the fact that there is a bibliography at the end of each chapter but on examination he was disappointed to find them astonishing

ingly inadequate even for an elementary text book. After the chapter on Individual Differences the names of Starch and Thorndike only are quoted and nothing published later than 1919 is mentioned. After a chapter which includes a treatment of some of the outstanding difficulties in adjustment there is no reference to Cyril Burt's masterly work *The Young Delinquent*.

In reviewing such a book as this the English reviewer naturally tries to assess its value in two quite different connections. Is it a book that would be useful for the English college student? Does it strengthen the Behaviourist position?

One must try in dealing with the first of these questions to leave out of account theoretical bias and to consider only the body of information that it presents. The book covers too many topics in its small compass to be suitable for college students. The treatment of many topics is extremely inadequate and superficial and the lack of references to the work of English psychologists is a further drawback. Part II on the development of behaviour would be helpful to training college students as it has much that is not easily accessible in any other volume of similar size. But it would be difficult for an English psychologist even if he sympathized with the Behaviourist point of view to use a text book that does not even mention such familiar terms as association, sentiment, image.

There is one part of the book which is outstandingly good for its purpose and which is very badly needed by the English student who often comes to the study of psychology with little or no knowledge of science. This is Part I which gives an exceedingly clear treatment of the concept of energy, of cellular characteristics, growth and organization of multicellular organisms and of the sensori neural equipment of man. It is of course a question whether a brief text book treatment of such a topic for people who are having no experimental work is desirable, but there is no doubt that Rexroad has made a very good attempt to meet the difficulty. Another aspect of the book that would be admirable for students (and others) is the clearness of his argument against the faculty and the instinct theory respectively as explanatory theories. Throughout the book the writer's effort to avoid making abstractions into entities is admirable.

When we turn to considerations of theoretical interest and ask how successfully Behaviourist theories are employed, a great many problems arise. There is not space to deal with all of them, but two or three may be taken as typical. Rexroad attempts to formulate a conditioned reflex theory of trial and error learning such as he takes the rat's learning of a maze to be. He says that the set of stimuli which precede retreat from a blind alley become substitutable for blockage, i.e. they lead to the building up of a conditioned negative reaction to the blind alley. But are the facts that are established with regard to conditioned reflexes comparable with this elimination of a piece of the path? On the first occasion on which the rat succeeds in finding the food he finds it after having run down the blind alley. Why then on later occasions should not the blind alley be run as a necessary antecedent to finding food? If the process of running down the blind alley and returning is not in some way differentiated from the running forward, conditioned reflex theory will not account for its elimination. If it is differentiated, then more is involved than is touched by conditioned reflex theory. The weight of this objection is increased by the fact that there are on record experiments in which animals faced with more difficult problems did not eliminate the piece of futile behaviour. Yerkes in his work with Julius the orang-utan records that when he was working on the problem of choosing the first door from the right he developed the trick of running towards the door on the extreme right, turning a

circle, and entering the door next to it—which was the right one through which he would pass to food. He never eliminated this circular movement and went straight to the right door, but after a time dissociated the movement from the right-hand position and would make it anywhere and run to the nearest door. Now if the rat's learning in the maze could be explained by conditioned reflex theory, there would be no more reason why he should drop out the blind alley than that Julius should drop out the useless circular movement. They are similar elements, and either will only be eliminated from the behaviour of an animal that has some grasp of space relations in connection with his specific problem.

Rexroad's treatment of desire may be taken as a measure of his success in dealing from the Behaviourist point of view with phenomena which are regarded as essentially conscious by the lay person. Rexroad says, "If we, constructed as we are, touch a hot object, we have a desire to withdraw from it. The desire is either a description of the fact that we do withdraw, or it is the stimulation and the sensori-motor construction which causes us to withdraw." This meaning obviates the necessity for the word, because the designation and description of the stimulus and the stimulus-response mechanisms are sufficient to account for the behaviour displayed. What words, then, would Rexroad use in describing such behaviour as that of Cranmer, who, "hesitating in presence of a terrible death," held his hand in the flame? He did not withdraw although he had "the stimulus-response mechanisms sufficient to account for withdrawal." If the Behaviourist theory has no more adequate way of dealing with such moments in the life of the individual than this, it can scarcely become a science of behaviour, much less of the individual as a whole.

Similar objections might be brought against the treatment of such terms as purpose, ideal, etc., but it would be futile, because Rexroad has made any adequate treatment of these terms impossible by defining introspection as verbal responses to internal stimuli. In this he has committed a plain fault of observation which shows that quite frequently people report having had an experience arising from so-called internal stimulation to which they wished to give verbal responses and could not. In such cases there is something over and above internal stimuli present, and that something is not verbal response. Even if the Behaviourist denies that these moments are introspective, he cannot deny their existence and he has no place for them in his scheme. But if introspection has not been disposed of in the easy way that Rexroad suggests, then what we seem to know through it with regard to purpose and ideals must be taken into account, and we can challenge the completeness of his definition of them as verbal or manual responses which have reference to the future.

It is very disappointing to realize afresh, from this attempt to fill out the Behaviourist theory, that its supporters are as narrow, as much afraid to face the whole complexity of facts, and as much bound by tradition, as any of the older theorists. An illustration of this unwillingness to face facts may be taken from Rexroad's paragraph on "The Error of Postulating Mental Processes." Here he says that to say that a man is conscious of an object is merely to say that he is reacting to that object. If this is the case, what is the difference between reacting to an object of which one is conscious and reacting to one of which one is not conscious? Here, things that are equal to the same thing are not equal to one another. Rexroad says that consciousness is reaction to an object, but we know that not all reactions to objects are conscious. What then makes the difference? Against all the canons of scientific observation, the Behaviourist says that there is no difference, because he has decided

naively and without any proof whatever that if there were any reality in consciousness it could not be of the same order as the rest of the world with which he is dealing, and that therefore it would lead to difficulties with regard to cause and effect about which he assumes that we are in a position to dogmatize. But the truth is that as long as we do not know what consciousness is, we cannot prove that it is non physical, nor in our ignorance can we know how to measure its physical antecedents and consequents in such a way as to say that its generation involves a breach of the equivalence of cause and effect. If space permitted, the writings of the most advanced of the physicists might be quoted to encourage the Behaviourists to face the whole of the facts, believing that the orderliness of the universe demands neither the particular characteristics of so-called matter nor the non existence of so-called mind that they seem anxious to establish.

VICTORIA HAZLITT.

Systematic Psychology. By EDWARD BRADFORD TITCHENER (New York The Macmillan Co., 1929 Pp xi + 278 Price 10s. 6d.)

As Professor Weld tells us in his preface, this volume contains the prolegomena to the work on *Systematic Psychology* which Professor Titchener had planned to write. At his death in 1927 only the introduction and three chapters of the prolegomena were complete. A projected fourth chapter on Method had not been put on paper. The Introduction and part of Chapter III appeared in *The American Journal of Psychology* for 1921, but students of psychology will be grateful to Professor Weld for the present publication. It sets forth the principles underlying Professor Titchener's teaching throughout his long association with Cornell. It will perhaps, appeal more to the elder than to the younger members of the present generation of psychologists. Nevertheless, it will furnish the latter with just that knowledge of their antecedents which Professor Titchener emphasized as of first-rate importance in psychology.

The book may be described as Titchener's answer to the question, "What is Psychology?" It opens with an account of the two conceptions of Psychology which found expression in 1874. One in *Psychologie vom Empirischen Standpunkte*, by Franz Brentano, the other in *Grundsätze der physiologischen Psychologie*, by Wilhelm Wundt. The first author came to his task with a training in scholastic philosophy and in Aristotelean method, the second came equipped by a training in natural science and with a special knowledge of physiology. Brentano defined psychology as the science of psychical phenomena. Such phenomena are characterized by "intentional inexistence." They are acts directed upon objects. Acts of ideation, of judgment, of loving-hating. Wundt differentiated between physiology and psychology not by subject matter, but by point of view. The psychologist views life from within, he aims at describing what is going on observably before him, just as the physiologist describes what goes on in the body. The psychologist analyses the complex processes to their lowest terms, viz. sensations. Titchener asks which of these two books holds the key to a science of psychology.

To reach his answer he proceeds in the next chapter to build up a definition of science. The scientific man is distinguished from other men by "a disinterested and impersonal observance of the world of human experience" (p 34). What defines science is its point of view, the kind of question it asks of the existential world. It makes use of experiment and logical method, and works up observational knowledge of acquaintance into communicable "knowledge-about." "The business of science is to furnish as simple as possible a descrip-

tion of the existential world " Science analyses synthesizes, reaches classificatory laws and correlations but it never asks the question ' Why?' in the sense of "for what end or purpose? "

From science proper Titchener would sharply distinguish technology In the pursuit of some practical problem the knowledge of one science or another may be borrowed, but such an application is not itself science The chapter ends with a plea for better education wherein there shall be given an insight into the true nature of science and the historical development of scientific knowledge

With his definition of science behind him Titchener goes forward to the main issue If Psychology is a science what is its point of view? He starts with Wundt's contention that psychology takes experience whole in its full primitive force whereas physical science in its view of objects abstracts from whatever is subjective, that, by keeping in touch with experience, psychology has no place for the abstract conceptual knowledge which characterizes physical science According to Wundt, physics deals with the universal properties of matter, chemistry with the special properties while biology is characterized by its method of regressive inference It has to work backward from effects to causes (This Wundt terms the teleological method, but it in no way implies first cause or purpose) Titchener criticizes Wundt's delineation of the point of view of psychology, and in particular his claim that it can dispense with conceptual constructions From Wundt he turns to Richard Avenarius In *Der Menschliche Weltbegriff* Avenarius says of psychology, ' The science is as wide as experience itself in so far as experience is dependent upon the individual ' (p 115) The dependence intended is functional variation and ' the individual ' is the environmental system wherein neurological factors play the leading part In the teaching of E Mach a similar conclusion is to be found The ultimate constituents of the whole world of experience are sensations, these are the neutral material of physics and of psychology. When sensations are studied in functional relation to events in the nervous system, they belong to psychology, when they are studied in relation to conditions external to the organization, they belong to physics From E Mach Titchener passes to James Ward Again point of view is emphasized " Psychology is the science of individual experience " " In this sense, " : e as presented to an individual the whole choir of heaven and furniture of earth may belong to psychology, but otherwise they are psychological non entities " Titchener might well have stressed how different is the ' individual ' that Ward has in mind from the environmental system of Avenarius or the nervous system of Mach Instead, he goes on to show the influence of Avenarius and Mach on the psychology of Kulpe and Ebbinghaus He points out that in James's later writings (*The Essays in Radical Empiricism*) we have Mach's doctrine that items are physical or psychical according to their context of associates

In summarizing these efforts to define psychology by point of view, Titchener accepts the general teaching of Avenarius It fits his belief that science deals with existential experience and suggests a mode of parcelling out the field of science In Physics, existential experience is regarded as functionally independent, in Biology, as functionally dependent upon the physical environment in Psychology, as functionally dependent upon the nervous system,

One may ask why, having arrived at a definition of psychology that satisfies his conception of science, Titchener should carry his question further He feels his task is not complete without demonstrating that the attempts to define psychology by a specific characteristic in subject matter have led to failure In his third chapter, which is by far the longest in the book, he gives a destructive criticism of the two great groups of psychologists who have

claimed such a specific field in psychology. He deals first with those whom he classes as *functional* psychologists. He examines the system of G. T. Ladd and refers in footnotes to Angell and Judd. Ladd defines psychology as 'the science which describes and explains the phenomena of consciousness as such'. Among other characteristics these phenomena possess that of being self-determining and this feature which Titchener styles 'this incalculable surd' separates the subject matter of psychology from that of other sciences. Functional psychology stresses the distinction between activity and content. Thereby it reflects the medical distinction between organic function and organic structure, a distinction which Titchener criticizes as superficial and as savouring of popular science. Further functional psychology regards consciousness as arising when the organism is faced with a problem where nerve processes are hesitant. Such a conception Titchener finds one-sided.

There is a consciousness *mutant* but there is also a consciousness resting quietly on its arms. He finds much overlap between what is ascribed to structure and what is ascribed to function, but worst of all he detects underlying all functional psychology a strong current of teleology. Final causes have long been banished from science and should find no place in a sound psychology. Titchener holds that because of this teleological attitude functional psychology is frequently used as the jumping-off ground for an interest in philosophy or for some technology, e.g. education, social science. It is not cultivated steadily for its own sake.

The second group of psychologists considered are those who derive their view of subject matter from Brentano. Just as functional psychology is coloured by biology, so the *psychology of act* is coloured by theory of knowledge. Titchener gives an outline of the analysis of subject matter offered by C. Stumpf (the pupil of Brentano) and by T. Lipps. He sketches the views of Meinong and Husserl so far as they relate to this point. This enables him to show that the relation of act to content and of content to intended object gives rise to controversy. He illustrates the divergences of opinion between members of the act-school by comparing the teaching of Witasek and Messer on a series of questions. S. Witasek represents the Austrian school of Meinong, while A. Messer is greatly influenced by Husserl though he owes his early training to Külpe. Both recognize the distinction of act and content, but whereas Witasek would carry the distinction right back to the lowest terms of experience, Messer would recognize sensory contents unaccompanied by acts. For Messer judgment is always *bi-membral*, synthetic for Witasek it may be either synthetic or *thetic*. Attention for Witasek is an act of *thetic* judgment, an act of apprehension, for Messer it is an attitude of the subject. Titchener judges this group of psychologists by a triple test: the classification of psychical phenomena, the treatment of sensation and the treatment of attention. Stout and Lipps are both arraigned for giving inconsistent systems of classification in different editions of their works. For Titchener this points to the inadequacy of 'intentionality' as a demarcation of the psychical. Neither writer can keep his psychology within the limits thus prescribed. The psychology of both Stout and Lipps is described as applied logic. The interest lies in argument, discussion and explication, rather than in the facts of observation (p. 243). Titchener acknowledges that logical construction has a necessary place, but the half here is less than the whole (p. 244). He declares that on the side of subject matter, intentionalism cannot cope with sensation and attention, while it cannot either dispense with them (p. 251). Like functional psychology, intentional psychology is applied psychology. It starts from man's mind at work in intercourse with nature and with his fellow men. None the less it fails to yield a systematic psychology. The

meaning of act varies from writer to writer. There is no psychology of act there are only psychologies (p. 253)

Finally Titchener addresses himself to the task of finding a characterization of the subject matter of psychology that shall be consonant with the definition by point of view. As a science becomes established it may be characterized materially by the common nature of its items or formally by the logical universe to which it belongs. Working on these lines Titchener finds that physics may be materially characterized as *energetic* biology as *behavioural* and psychology as *sensory*. Formally considered physics is *universal* in contrast biology is *individuate* while psychology is *systematic*. (It may be noted that in the text the headings of the tables on p. 266 have been transposed.) Systematic Psychology had it been written would have given us Titchener's justification of this schema.

In reading these chapters the reader cannot fail to be impressed by the wide knowledge of contemporary psychology. He will admire the writer's grasp and his clearness of style but he may in the end remain unconvinced of the necessity of the writer's conclusion. He may question whether systems that by Titchener's own showing find strong support in common sense and the practical interests of men are to be lightly dismissed from the domain of science.

He may further press for justification of the boundary line intended by the term *existential*. Much must fall outside Titchener's definition of science but does it follow that because it does so it is not psychology?

BEATRICE EDGEELL

Phantom Walls By SIR OLIVER LODGE (London: Hodder and Stoughton Ltd. 1929. Pp. xii + 250. Price 5s. net.)

This book was composed by Sir Oliver Lodge because as he says in the preface a beneficent spiritual world has for him become the ultimate reality. In it he deals with various aspects of the hypothesis of survival and the spiritistic view of the universe in general. His own statement of the spiritistic hypothesis is certainly not encouraging. It is an appeal to the activity of unknown agents acting by unknown methods under conditions of which we have no experience and by means of which we are unaware (p. 209). It is difficult to see how this can be fruitful in suggesting fresh avenues of attack in psychical investigation since almost anything would be possible on this hypothesis! In many of his arguments the author shows a lack of logic and clarity which will surprise those who have read and appreciated his address at the last annual meeting of the Institute. For instance the fact that law and order rule throughout the universe even to the remotest star shows that it is all dominated by one supreme Mind (p. 20). On p. 179 after stating that it is not always easy to discriminate between subjective and objective events he gives as examples images in mirrors and the rainbow. By using the words subjective and objective with different meanings in different paragraphs he succeeds in producing the most amazing confusion.

Sir Oliver Lodge as is well known holds that the brain is merely an instrument and he makes use of the present tendency in physics to concentrate on properties of the intervening medium rather than ultimate material units to suggest that life and mind latent in some way in the ether can interact with material organisms in somewhat the same way as radiation reacts with matter. In his address to the Institute Sir Oliver Lodge only claimed that life and mind were capable of *guiding* the degradation of energy or universal

increase of entropy, in this book, however, he assumes that the physical universe is a "reversible machine," and its operations therefore cyclical and eternal. Evolution only takes place as regards increase in *organization* of matter. An electron in free space is incapable of interacting with radiation, according to Jeans, and it has to be associated with a proton before it can either emit or absorb it. This is an example of emergent properties due to organization. And Sir Oliver Lodge thinks that when the organization has got sufficiently complex, it is capable of interaction with life and mind which are also somehow existent in the ether. But when a proton loses its electron the organization is destroyed, and in the process radiation is produced which spreads outwards for ever until perhaps it is used up in producing fresh organization. When at death the organization of the brain is destroyed, some counterpart in the ether—the "personality"—survives, but Sir Oliver Lodge does not press the analogy further, and assume that the personality becomes diffused again in the ether somewhat after the Shavian manner, nor does he believe it capable of producing more organization, i.e. reincarnation. His real reasons for holding these beliefs are, of course, derived from his experience in psychical research and he only uses physical analogies to make them more plausible. Emergence, however he holds to be a fact—"This is real evolution. It was to make this possible that the physical universe existed. The cyclical operations of matter may be made to conduce to one great end, a growth in mental and spiritual values. And thus I take it is the meaning and object of the universe" (p. 124).

In refusing to accept the views of those who have lately over-emphasized the metrical aspect of science Sir Oliver Lodge makes an interesting and convincing plea for further research into psychic phenomena by trained and competent people. It is still true to-day that anyone considers himself competent to judge the value of these phenomena, whereas they require for their investigation not only a wide scientific knowledge, but, more important still, a knowledge of the methods of fraud and production of illusions of all sorts. Let us hope with Sir Oliver Lodge that some day the problem of survival will be "attacked by science and some definite answer attained."

G. B. BROWN

Individual Understanding, A Layman's Approach to Practical Philosophy
By EMILE GARCKE (London: Electrical Press Ltd., 1929. For private distribution Pp. xi + 383.)

Mr Garcke is known to many readers of the *Journal* as the Treasurer and generous helper of the Institute of Philosophical Studies. His interest in the Institute has been a practical expression of his desire to foster the pursuit of philosophy among ordinary men and women, because he is convinced that the ordinary citizen will be greatly aided in his practical life by the attempt to gain a wide and comprehensive outlook on the world, on man's nature, and on man's place in the scheme of things. He is convinced that it is possible for everyone, however little learned, who will make the endeavour, to advance at least far enough in this pursuit to make it a source both of joy and of profit to himself and to the community. But as a practical man, with long experience of affairs in which tests of success or failure have to be kept always in view, he is convinced that the ordinary traditional methods of philosophical study are not sufficient, if the average man is to be induced to undertake the task. Lectures on the history of past philosophical systems, however interesting, may awaken interest for some students, but they are apt to leave the average man a half-amused onlooker, as at a clever game, where the stake is of little

importance Books on ultimate philosophical problems are liable to leave the impression that the task of metaphysics is to make simple things appear paradoxical It is easy to be learned, but learned expositions are not for the average man How then is the ordinary unlearned person to make a beginning in the study? This is Mr Garcke's fundamental problem, and this book is his attempt to put forward a tentative solution, by illustrating the method by which he himself has made his way in philosophizing

The problem is one which all teachers of philosophy have continually before them It is one which is of real importance, and of great difficulty, and a similar problem is to be met with in all branches of adult education In the development of Tutorial Classes, for example associated with the Workers' Educational Association during the last twenty years, the constant endeavour has been to foster the spirit of independent and organized study of some particular subject by means of consecutive courses, involving lecture, discussion and essay-writing, over a continuous period of three years, and many skilled tutors have noted the way in which students, who in their first year are active and energetic searchers for a point of view which they shall have acquired by their own efforts become in their second and third years, so impressed by the complexities and difficulties of the subject that they come to depend on their tutor to too great an extent ceasing to have confidence in the outcome of their own thinking It is a problem to which as yet no general solution has been found, and we are grateful to Mr Garcke for keeping it steadily in view and doing what he can to help toward a solution

How then is the ordinary man to be encouraged to make a beginning in acquiring a philosophical outlook? It is commonplace that he should begin from his own experience, and build on that as a basis widening and deepening, endeavouring to make his point of view both as comprehensive and as systematic as he can He should avoid both arrogance and passivity, remembering that there are always differences of outlook to be met with among men, and yet that each man should have his own outlook Probability is all he can hope to attain in ultimate things, but only by keen attention to definiteness and detail can he gain an outlook capable of growing and developing as life itself widens and experience is enriched Mr Garcke here stresses the importance of classification and definition of the conceptions a man already possesses Sound classification at the beginning of his study a man cannot hope to attain, but let him once make a start, and he will be in possession of a means both of clarifying his views and of criticizing them in the light of the experience of others

Since comprehensiveness and synthesis is the ultimate character of a philosophy, Mr Garcke suggests that the ordinary man should begin his study by "fixing on the widest generalization or the largest key idea which he can formulate" . "a formula, or even a single word, which gives his world-view the widest intelligible expression of which he is capable" Mr Garcke suggests, *e.g.* such words to choose from as "Totality, Universe, Unity, Reality, Existence, Cosmos, Being, Nature, Æther, Evolution, Activity, Continuity, Substance, Matter, Mind, Experience, Happiness, Spirit, Will, Utility, Truth, Relativity, Absolute" Different individuals will start with their own key-ideas A provisional starting-point in all that is needed. Let him next proceed to make a wide classification of his knowledge, so as to relate it to his key idea If, *e.g.* he starts with Existence, he may decide that the two big divisions of existence are Mind and Matter, classification naturally tends to give rise to two antithetical divisions But Mr Garcke suggests that wherever there are two antitheses proposed as expressing the fundamental nature of a given field, experience will show that the antithesis is only relative,

and that a term which combines the two antitheses into one is needed as well this intermediate term being regarded as the expression of a nature which shades off in two directions toward one or other of the original antithetic terms. Thus he favours the attempt to divide not into two but into three trying to see how the antitheses originally fixed on are mediated by their synthesis.

In his own systematic beginning Mr Garcke fixed on Totality as his key idea with the physical and the psychical as his primary antithesis and with the physiological as mediating between them.

The beginner who has proceeded as far as this by his own efforts with his own starting point and his own reflexions on experience necessary to make his preliminary classification has already gone a long way in the systematization of experience his ideas are less vague and being expressed with definiteness can be laid alongside those of other thinkers for correction and modification. one sees e.g. how much reflexion is encouraged in the effort to see the relation between the physiological and the physical on the one hand and the psychical on the other and to see how physical physiological and psychical are related in the Totality of Being.

Thus is only the first step. For the problems which will arise for the ordinary man in his philosophizing at this stage will lure him on to an endeavour to clarify and systematize his ideas relatively to each of his primary categories. He can proceed here just as before and Mr Garcke himself divides each of his three primary categories into three nine main divisions thus falling within Totality. Whoever follows Mr Garcke's analysis will see how rich a field of material for the ordinary man's philosophizing is thereby provided even if in classification one goes no farther. Mr Garcke's essential point is that his classifications are given as an example and not suggested as the classifications one ought to make. Each man should make his own reflecting on his own experience pondering on the views of others with the object of arriving at his own Individual Understanding of the world in which he lives his life.

We cannot follow Mr Garcke here in the detail of his own classifications in which he has made successively 9, 27 and 81 divisions with the suggestion that there are 243 etc. divisions possible if one would proceed so far. It is his indication of a method that he wishes to stress. Both for the teacher of philosophy and for the ordinary man wishing to begin philosophy his suggestion of method is well worth pondering.

The book is admirably provided with apparatus for aiding the reader and supplied with a model index.

L. J. RUSSELL

Coleridge on Logic and Learning With Selections from the Unpublished Manuscripts. By ALICE D. SNYDER Associate Professor of English at Vassar College (New Haven and London: Yale & Oxford University Press 1929 Pp. xvi + 169 Price 13s. 6d. 3 dollars.)

Coleridge seems at last to be coming to his rights as a far more original and systematic thinker in philosophy than has hitherto been generally recognized. In this work of historic justice American students have led the way. From the beginning this side of the poet's myriad mindedness has received more appreciative attention in America than in England. At the present day a group of workers largely under the inspiration of Professor Alice Snyder are devoting themselves to the investigation of hitherto neglected manuscripts. In the present volume the result of several years' labour at the British Museum she prints for the first time the chief part of

NEW BOOKS

the material that is available for an estimate of Coleridge's contribution to Logic, a study which he himself regarded as the necessary "propædæutic" to any system of thought. It is introduced by three admirable chapters entitled "Logician, Metaphysician, Bard," "The Potential Scientist" (in which Coleridge's relations with many of the leading scientific men of his time are sketched), "Encyclopædist and Educator" (with interesting references to his ideas for the University of London, as then projected). In what follows the authoress tells the story of the successive attempts to realize his ambition of putting Logic on a more satisfactory basis than he found in contemporary text-books.

Of the earlier of these attempts dating so far back as 1805, only fragments remain, the most valuable of which, intended as an introduction to *Outlines of the History of Logic*, is here printed at length. Of the later, begun at a time when he had assimilated the work of Kant, we have a more complete record in the two volume manuscript entitled *Logic*, which is preserved in the British Museum (Egerton 2825-6), and, in spite of its obvious defects, is invaluable as proof how much nearer Coleridge came to realizing his ambition than is commonly supposed. Miss Snyder approves the "discretion" of his disciple and literary trustee Joseph Henry Green, in abstaining from publishing it, and contents herself with an analysis of the argument, supplemented by large extracts from it and the other manuscripts of which an account is given at the beginning of the book, among them the *marginalia* on the English translation of Wolff's *Logic* and on the first hundred pages of Hegel's *Science of Logic*. Within these self-imposed limits she has produced a scholarly work making an important addition to the still growing mass of Coleridgean literature. What the ultimate judgment on the value of Coleridge's contribution to Logic will be she does not anticipate. Criticism is mainly confined to remarks on the writer's relation to Moses Mendelssohn's *Morgenstunden*, of which she has made a special study. It is legitimate perhaps to suggest in view of the great extension which the science has since received from Whewell, Mill, Jevons, and the writers of our own time, that what Coleridge dictated in this work is more valuable as indicating his attitude to philosophical problems in general than as representing any positive advance in this special department. Nothing, for instance, could be more illuminating on his own views than the criticisms on Berkeley and Hume, quoted in part (pp. 91, 92, 123, and 124), while sufficient is given of what he here writes upon Kant (*ibid*) to show how untrue it is to suppose that Coleridge either misunderstood or merely took his philosophy from the *Critique of Pure Reason*.

Be this as it may, students of the history of British and American philosophy in the nineteenth century will be grateful to Professor Snyder for the lead she here gives for a truer appreciation of Coleridge's contribution to it. For a chapter that hitherto has been missing in that history she has provided a most interesting part of the necessary material.

J. H. MUIRHEAD.

A Source Book on Astronomy By HARLOW SHAPLEY, Ph.D., LL.D., and HELEN E. HOWARTH (London: McGraw-Hill Publishing Co., Ltd. 1929. Pp. xvi + 411. Price 20s.)

It was a happy idea to publish a series of source books in the History of the Sciences. Few of us read the *original* papers in which great discoveries were announced to the world, and that is our loss. For the way in which the discovery is presented often throws light on the mental outlook of the

discoverer, and we are surprised to find what changes there have been in the general scientific attitude

Nowadays we do not feel impressed by Copernicus's argument that the universe is spherical "because this form being a complete circle, needing no joints, is the most perfect of all" Or by Kepler's view that the number of the planets were derived by the most wise Creator from the five solid figures But Galileo's account of his discovery of Jupiter's satellites is still delightful reading Astronomy, however, is to a great extent a mathematical science, there is a theory that people who read source books are not interested in mathematics, consequently many of the most interesting things are omitted An account of how Roche found Roche's limit would, for example, be interesting When one looks at the extract from Lagrange on the solution of the problem of three bodies—after two paragraphs we are told in a bracket "In some twenty pages of fairly simple mathematical analysis, Lagrange discusses this and other special cases of the Problem of Three Bodies" It is just this fairly simple mathematics that we want However, this is no place for slight criticism

Professor Shapley and Miss Howarth have made their selections with great judgment, and have produced an exceedingly interesting book

C P SANGER

Research in the Social Sciences: Its Fundamental Methods and Objectives
 Edited by WILSON GEE, PH D (New York the Macmillan Co Pp x
 + 305 Price 8s 6d net)

This book consists of nine lectures delivered, on the occasion of its opening, to the Institute for Research in the Social Sciences at the University of Virginia Each lecture is devoted to one "social science," and is given by a scholar of recognized eminence in it, most of their names are indeed familiar on both sides of the Atlantic And the aim of the course is, as the occasion demanded, to sketch the possibilities of "research" in the various sciences of which it treats It is naturally not possible in a short notice to discuss or even summarize all the contributions, still less to pronounce judgment on their value But it is worth remarking that most of the lecturers seem to feel a distinct reluctance to assume, even within their own special sciences, the rôle of a modern Bacon, and tend to devote themselves to describing the actual state and aims of their sciences, or to discussing some of their most urgent problems, rather than to laying down a programme of research to be followed by students This scepticism is not openly avowed, except in the late Professor Young's lecture on economics ("routine research will give a routine product," p 79) But it is implicit in most of the contributions, and it augurs well for the future of social science, however disappointing it may have been to the would-be researchers who presumably furnished the audience for the lectures It is also interesting to note that Philosophy was one of the social sciences to be chosen, and Professor Dewey the lecturer upon it

OLIVER DE SELINCOURT

From the Physical to the Social Sciences: Introduction to the Study of Economic and Ethical Theory By JACQUES RUEFF Translated by H GREEN
 (Baltimore Johns Hopkins Press, London Humphrey Milford
 Oxford University Press 1929 Pp xxxiv + 159 Price 9s)

This small book deals with a very important issue in the study of the social sciences But the author does not show any acquaintance with work done on

the subject outside of France. Boutroux and Poincaré appear to be his guides. His logical position is at least dubious, for he seems to believe that the "laws" of physical science are statements about mental process—a vague Kantianism. With regard to the Social Sciences, which the author calls the "so called" sciences, he distinguishes an empirical branch which analyses customs and "a rational branch which creates their causes." It is not clear what he means by "creates." He completely confuses "moral laws" as the statements of "moral" custom, which are not "moral laws" at all in ordinary ethical theory, with the statements expressing the moral judgment. These latter statements, he announces, are without any absolute value, whatever that means. The "causes" created by the study of morals are only to justify any "empirical" customs which the student happens to regard as paramount. There may be some truth in the contrast between natural facts in the relation of man to man and the standard or criterion of value, but it does not seem that the author has advanced very far in the explanation of the standard.

C DELISLE BURNS

The Greek Sceptics. By MARY M. PATRICK, LL.D. Litt.D. (New York: Columbia University Press (London: Humphrey Milford), 1929. Pp. xxi + 339. Price 4 dollars 50 22s 6d.)

It is difficult even to feign a welcome for this work. To say the least, a book at such a price should have some special merit to justify itself, but neither in format nor in quality of production is it worth more than half a guinea, and its contents have neither the recondite character that limits circulation nor the distinction of fine research or presentation that perhaps entitles an author to solicit a substantial recompense from his readers. In any case, it is inept to issue a book intended wholly for beginners at a price which places it beyond the reach of most of them. As for the contents, the best one can say is that they show close familiarity with the sources. There is no new interpretation, no criticism, not even ability of presentation: the division into paragraphs is not rarely little more than a spatial affair, sentences often fall in mere heaps, and there is tiresome repetition. For example, a paragraph devoted to the bibliography of the works of Sextus, after culminating rightly with the mention of Becker's edition, without any transition tacks on the remark, "There is much in the writings of Sextus Empiricus that finds a parallel in the methods of modern science." Of the following two sentences the first makes one wish that the word 'and' could be abolished from our language, and the second is unintelligible even with the help of its context: "Greek scepticism originated among a people much given to discussion, and sceptical inquiry may be traced to the earliest period of Greek Philosophy"; "The Greeks in their earliest historical period connected all research with a psychological middle standpoint in a simple world theory." Instances could be multiplied. Finally, the meaning of scepticism is left in its popular confusion. Although in the main body of the book the author shows that Greek scepticism stood for the *relativity* of knowledge and the *impossibility* of any criterion of truth except the pragmatic one, at the beginning and the end she insists that it was not essentially negative, that it was 'the attitude of open mindedness towards knowledge.' This latter characterization enables her to include in her survey one so far removed from the sceptical doctrine as Dante, and to adduce modern science as the present representative of scepticism. It really entitles her to include every earnest thinker the world has known. Perhaps the Greek sceptics had that characteristic, but it was something else that marked them as sceptics. Machiavelli is dragged in too on the ground of 'doubt of the

principles of truth and justice in political relations. Doubt is surely the last word to apply to him besides his position is simply that at the present stage of human development moral ideals cannot be applied indiscriminately to political matters without political disaster—a position which has nothing to do with the particular epistemological theory which philosophers mean by scepticism. Mistrust of character is not doubt of positive metaphysics.

The beginner who wants to read about the Greek sceptics will find all he needs fully and very clearly expressed in Zeller to whom the author naturally makes frequent reference. The great German scholar long available in translation calls for no *πα δαγωγὴ*, no preparatory manual to bring the beginner to him.

T E JESSOP

Received also —

- EDOUARD LE ROY *Le Problème de Dieu* Paris L'Artisan du Livre 1929
Pp 350 Fr 20
- VARIOUS *Abstracts of Dissertations for the Degree of Doctor of Philosophy*
(University of Oxford Committee for Advanced Studies) Oxford
Clarendon Press Humphrey Milford 1928 In 2 vols Vol I Pp vii + 144
Vol II Pp vi + 169 5s each
- MICHAEL B FOSTER B.A. D PHIL *Die Geschichte als Schicksal des Geistes
in der Hegelschen Philosophie* Tübingen Verlag von J C B Mohr (Paul
Siebeck) 1929 Pp 110 RM 6 60
- ALFRED NORTH WHITEHEAD Sc D LL D FRS *The Function of Reason*
(Louis Clark Vanuxem Lectures 1929) Princeton University Press
London Humphrey Milford Oxford University Press 1929 Pp 72 7s
- VARIOUS *Atti del VII Congresso Nazionale di Filosofia* Roma Casa Editrice
D Arte Bestetti & Tumminelli 1929 Pp 406 L 40
- R GORDON MILBURN *The Logic of Religious Thought* London Williams &
Norgate 1929 Pp 165 6s
- A J I KRAUS Ph D *Sick Society* Chicago University of Chicago Press
1929 Pp x + 206 9s
- PHILIPPE DEVAUX *Le Système d'Alexander* Paris Librairie Philosophique
J Vrin 1929 Pp 193 Fr 25
- LABBE ROBERT JACQUIN *Notions sur le Langage* Paris Librairie Philo-
sophique J Vrin 1929 Pp 43
- HARRY ALSTAYN WOLFSON *Crescas Critique of Aristotle* Cambridge U.S.A.
Harvard University Press 1929 Pp xvi + 759 London Humphrey
Milford 28s
- MARGARET STORRS *The Relation of Carlyle to Kant and Fichte* Bryn Mawr
Pa. U.S.A. Bryn Mawr College 1929 Pp 101
- UGO SPIRITO *L'Idealismo Italiano e i suoi Critici* Florence Felice le Monnier
1930 Pp 266
- C E M JOAD *The Present and Future of Religion* London Ernest Benn
Ltd 1930 Pp 224 10s 6d
- JAMES YOUNG SIMPSON *Human Nature—Cosmic Human and Divine*
(Terry Lectures 1929) London Oxford University Press Humphrey
Milford 1930 Pp ix + 157 6s
- A H B ALLEN *Pleasure and Instinct* London Kegan Paul Trench Trubner
& Co 1930 Pp ix + 336 12s 6d
- GLIDO DE RUGGIERO *Storia della Filosofia Parte Terza) Rinascimento
Riforma e Controriforma* (Biblioteca di Cultura Moderna) Bari Gius
Laterza & Figli 1930 Vol I Pp viii + 310 Vol II Pp 300 Due
volumi L 40 00

NEW BOOKS

- RICHARD B GREGG *The Psychology and Strategy of Gandhi's Non Violent Resistance* Triplican Madras S Ganesan 1929 Pp 169
- Kant *Selections* Edited by Theodore M Greene London Charles Scribner's Sons 1929 Pp LXXI + 526 3s 6d
- GERALD HEARD *The Ascent of Humanity* London Jonathan Cape 1929 Pp xiv + 332 15s
- G R DE BEER *Embryology and Evolution* Oxford Clarendon Press 1930 Pp ix + 116 5s
- F R TENNANT *Philosophical Theology* Vol II (The World the Soul and God) Cambridge University Press 1930 Pp xiv + 276 15s
- Leone Ebreo *Dialoghi d'Amore Hebraeische Gedichte* Herausgegeben/mit einer darstellung des lebens und des werkes leones/bibliographie/register zu den dialoghi/uebertragung der Hebraeischen texte/regesten urkunden und anmerkungen von Carl Gebhardt Oxford University Press Humphrey Milford 1930 Pp 122 + 156 + 39 + 66 40s
- RICHARD HOFF *The Book of Diogenes Laertius* New York Columbia University Press 1930 Pp xiv + 241 \$3 50
- WALTER EHRLICH *Stufen der Personalität* Halle Max Niemeyer 1930 Pp 165 RM 8
- WILLIAM EVERTON *Rambling Remarks* London Arthur H Stockwell 1930 Pp 64 2s 6d
- HAROLD A LARRABEE *Un Chapitre peu connu de la 1^{ie} D Henri de Saint Simon* Paris Imprimerie de la Cour D Appel 1929 Pp 24
- T H PEAR MA BSc *The Art of Study* London Kegan Paul Trench Trubner & Co 1930 Pp vii + 117 3s 6d
- RAY H DOTTERER PH.D *Philosophy by Way of the Sciences* New York The Macmillan Co 1930 Pp xv + 469 10s 6d
- JOHN DEWEY *The Quest for Certainty A Study of the Relation of Knowledge and Action* (Gifford Lectures 1929) London George Allen & Unwin 1930 10s 6d
- JOHN M WARBEKE *The Searching Mind of Greece* New York F S Crofts & Co 1930 Pp xii + 464 5 dollars
- GÉZA RÓHEIM PH.D *Animism Magic and the Divine King* London Kegan Paul Trench Trubner & Co 1930 Pp xviii + 390 21s
- C D BROAD LITT.D F.B.A *Five Types of Ethical Theory* (International Library of Psychology and Philosophy) London Kegan Paul Trench Trubner & Co 1930 Pp xxv + 288 15s
- G C FIELD MA BSc *Plato and his Contemporaries* London Methuen & Co 1930 Pp xi + 242 12s 6d
- EMILE MEYERSON *Identity and Reality* Authorized translation by Kate Loewenberg London George Allen & Unwin Ltd 1930 Pp 495 16s
- PIERRE BRUNET *Maupertuis Etude Biographique* Paris Librairie Scientifique Albert Blanchard 1929 Pp 199 + iii
- PIERRE BRUNET *Maupertuis L'Œuvre et sa place dans la pensée scientifique et philosophique du XVIII^e siècle* Paris Librairie Scientifique Albert Blanchard 1929 Pp 487 + vi
- LEONARD HODGSON MA HON.D.C.L *Essays in Christian Philosophy* London Longmans Green & Co 1930 Pp vi + 175 9s
- M DIDE ET P GUIRAUD *Psychiatrie du Médecin Practicien* (Deuxième édition) Paris Masson et Cie 1929 Pp 466 Fr 45
- BRAHMACHARI GITANAND *The Gita Idea of God* Madras B G Paul & Co 1930 Pp Lxiv + 432
- Annual Report of the Smithsonian Institution* 1928 Washington US Government Printing Office 1929 Pp xii + 763

JOURNAL OF PHILOSOPHICAL STUDIES

- MILTON HALSEY THOMAS and HERBERT WALLACE SCHNEIDER *A Bibliography of John Dewey* New York Columbia University Press London Humphrey Milford 1929 Pp xxi + 151 3 dollars 15s
- SIR RICHARD PAGET Bart *Human Speech* (International Library of Psychology and Philosophy) London Kegan Paul Trench, Trübner & Co 1930 Pp xiv + 360 25s
- C DELISLE BURNS *An Introduction to the Social Sciences* London George Allen & Unwin 1930 Pp 112 3s 6d
- N R D ALFONSO *Natura Economica* Roma Athenaeum 1930 Pp 27
- EDMOND HOLMES *Philosophy without Metaphysics* London George Allen & Unwin 1930 Pp 175 7s 6d
- RICHARD McKEON (Editor) *Selections from Mediaeval Philosophers I Augustine to Albert the Great* London Charles Scribner's Sons 1930 Pp xx + 375 3s 6d
- GEORGE WHITEHEAD *Psycho-Analysis and Art* London John Bale Sons & Danielsson Ltd 1930 Pp 146 5s
- A RIVAUD *Les Grands Courants de la Pensée antique* Collection Armand Colin Paris Colin 1929 Pp 218 Fr 9
- A CRESSON *Les Systèmes philosophiques* Collection Armand Colin Paris Colin 1929 Pp 218 Fr 9
- M LEROY *Descartes le philosophe au masque* 2 vols Paris Rieder 1929 Pp 200 + 189 Fr 36
- PLATON *Œuvres complètes* Tome IV 2^e partie *Le Banquet* Texte établi et traduit par L. Robin Paris Société d'Édition Les Belles Lettres 1929 Pp cxxi + 184 Fr 25

INSTITUTE NOTES

Summer Term begins on April 29th and ends on June 30th.

A course of six weekly lectures on *ÆSTHETIC PHILOSOPHY* will be given by Professor LASCELLES ABERCROMBIE, M A., on Mondays, at 5 30 p m., at University Hall, 14, Gordon Square, W C 1

At the periodical evening meetings during the Lent Term the following lectures have been given —

THE PHILOSOPHY OF ADULT EDUCATION, by Principal L. P. JACKS, D D., M A LL D

THE PHILOSOPHY OF A BIOLOGIST by Professor LEONARD HILL, D Litt, F R S.
RELIGION AND THE SCIENTIFIC WORKER, by JOSEPH NEEDHAM, M A
MATTER LIFE AND VALUE, by Mr C E M JOAD

The lectures recently given by Professor ALEXANDER on SCIENCE AND ART will appear in the form of three articles in the *Journal of Philosophical Studies*. The first of these articles will be printed in the July number of the *Journal*

Readers of the *Journal* will be interested to learn that the four articles on THE PHILOSOPHY OF SOCIAL LIFE, by Mr DELISLE BURNS which were published in October 1928 January, April, July 1929, have now appeared in book form under the title of *An Introduction to the Social Sciences* Publishers George Allen and Unwin price, 2s 6d net

WIRELESS "TALKS" ON PHILOSOPHY.

We understand that the following "Talks" are to be broadcast in the Summer Term

On Mondays 8 p m Regional Wave April 28th to July 14th, inclusive
"Freedom and Personality" Twelve popular talks, conducted in the form of a Socratic dialogue between Professor John Macmurray, of King's College, London, and a representative of the ordinary listener

On Tuesdays 8 p m 5XX only April 29th to July 15th, inclusive In this period, the first of a related series of talks on Psychology will be given in the form of an introduction to Psychology by Professor Cyril Burt, who is already well known to listeners In these talks Professor Burt will describe various methods used in the study of the mind

FOUNDATION OF A WILLIAM JAMES LECTURESHIP

By a gift of the late Edgar Pierce, Ph D, Harvard 1895, and author of *The Philosophy of Character*, a Lectureship in honour of William James has been established in Harvard University Dr Pierce was at one time Instructor in Psychology at Harvard, and later a member of the Visiting Committee for the Department of Philosophy and Psychology Appointments will be made to this Lectureship at least biennially, the appointees being in residence at the University and participating in the regular instruction Professor John Dewey will be the first lecturer on this foundation During the spring term, beginning February 1931, he will deliver a series of ten public addresses on a topic not yet announced The subjects covered in the William James

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Lectures are not limited in any way beyond the general condition that they must fall within the field of philosophy and psychology. The lectures will appear in book form.

SEVENTH INTERNATIONAL CONGRESS OF PHILOSOPHY

(SECOND CIRCULAR)

The Seventh International Congress of Philosophy will meet September 1st to 5th 1930 at Oxford England. The programme of the Congress will be as follows —

A — GENERAL PLAN

- Monday Evening September 1st* — Opening Meeting. Addresses of welcome, and reply by Representative of Foreign Delegates.
Tuesday Wednesday Thursday and Friday September 2nd to 5th —
Mornings 9.30–12.30 — Simultaneous Section Meetings in all Four Divisions.
Tuesday Afternoon — General Session Division A
Wednesday Afternoon — General Session Division B
Thursday Afternoon — General Session Division C
Thursday Evening — Business meeting
Friday Afternoon — General Session Division D

B — SESSIONS

- Division A Metaphysics—General Session* — Subject: Are recent advances in Physics of metaphysical importance?
Section 1 — Subject: Is a philosophy of history consistent with the facts of history?
Section 2 — Subject: Must biological processes be either purposive or mechanistic?
Section 3 — Subject: The relations between Metaphysics and Religion
Section 4 — Subject: Open Session
Division B Logic and Epistemology—General Session — Subjects: (a) The value of recent contributions to Logic (b) Phenomenology
Section 1 — Subject: The nature of Perception and of its objects
Section 2 — Subject: The nature and source of non-perceptual factors in thinking
Section 3 — Subject: The relation of scientific thinking to the ideal of knowledge
Section 4 — Subject: Open Session
Division C Ethics Politics and Aesthetics—General Session — Subject: The value of Ethical and Political Philosophy as guides in practice
Section 1 — Subject: Is the distinction between moral rightness and wrongness ultimate?
Section 2 — Subject: Is the ground of political obligation always one and the same?
Section 3 — Subject: Recent suggestions in the theory of Fine Art
Section 4 — Subject: Open Session
Division D History of Philosophy—General Session — Subject: In what respects has Philosophy progressed?
Section 1 Subsection (a) Ancient Philosophy — Subject: What is alive and what is dead in the Philosophy of Classical Antiquity?
Subsection (b) Medieval Philosophy — Subject: The philosophical problems at issue in the thirteenth and fourteenth centuries

INSTITUTE NOTES

Subsection (c) Oriental Philosophy—Subject What contributions have been made to Philosophy by Eastern Philosophers (including Jews and Western Arabs)?

Section 2 Philosophy of the Seventeenth and Eighteenth Centuries—Subject Has Kant by the introduction of his transcendental method rendered the study of his predecessors unnecessary?

Section 3 Philosophy of the Nineteenth and Twentieth Centuries—Subject Open Session

The following have already signified their intention to attend the Congress as speakers —

M Schlick (Austria) L Noel E Dupreel (Belgium) D Michaltshev (Bulgaria) Jorgen Jorgensen V Kuhr (Denmark) L Brunschwig (France) B Bauch H Driesch E Ungerer N Hartmann J Stenzel A Liebert (Germany) S Radhakrishnan (India) B Croce G Gentile B Varisco A Aliotta G de Ruggiero (Italy) W Lutoslawski (Poland), G D Scraha (Rumania) R F A Hoernlé H G Stoker (South Africa)

In the General Session of each Division four Readers of Papers will be designated. The papers must not exceed 20 minutes and discussion will follow.

In the Sections for which a topic is indicated there will be four designated Readers of Papers after which the topic will be open for discussion by other members of the Congress but members who wish to read papers must send them in to the Congress not later than August 1st. The papers of designated Readers should not exceed 20 minutes and other papers should not exceed 10 minutes.

In the Open Sectional Meetings for which no topic is indicated any member may contribute a paper, provided that it is sent to the Committee not later than August 1st. These papers must not exceed 15 minutes. The Committee will distribute papers sent in to them among the Open Sessions. All papers offered for the Congress must be in manuscript or (preferably) typewritten, in a form ready for the printer and must not exceed 3 000 words for the General Sessions or 2 000 for the Sectional Sessions. They should be sent to the Secretary and be in his hands before August 1st and it is earnestly requested that they should be sent to him as long as possible before that date. If these conditions are observed the papers by designated speakers will be printed and circulated to members before the Sessions and will be published in the Proceedings of the Congress. An endeavour will be made to do the same with as many as possible of the papers offered and accepted by the Programme Committee for the Open Sessions but no guarantee of their inclusion in the published Proceedings can be given.

The recognized languages for papers and oral discussion at the Congress will be English, French, German and Italian.

Prospective members of the Congress are requested to send in their applications as soon as possible together with their membership fees (for active members £1 for associates—wives and families of members—10s) to the Secretary Mr A H Hannay 74 Grosvenor Street London W 1 who will send them registration cards and record their names on the roll of the Congress. Members who pay by postal order or through a bank are requested to notify the Treasurer at the same time so that the payment can be identified. All payments should be in English money. Members will be entitled to a return ticket at a reduced fare from any place in the United Kingdom to Oxford.

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Accommodation will be provided at the following Colleges —

Corpus Christi College Hertford College St Hilda's College Magdalen College Merton College Oriel College New College

The general charge will be 12s 6d a day Delegates and members desiring accommodation should state particulars on the application form .

The sessions of the Congress will be held at the Examination Schools Oxford The Secretary's office will be in the Examination Schools and will be open from Saturday August 30 1930 Members of the Congress should register at the office as soon as possible after their arrival at Oxford Letters or telegrams for members may be addressed to the office for the duration of the Congress

For the Organizing Committee

J A SMITH

Chairman

A H HANNAY

Secretary and Treasurer

OBITUARY NOTICE

We regret to announce that the Earl of Balfour, the first distinguished President of the British Institute of Philosophical Studies, died on the 19th March at the house of his brother, the Hon. Gerald Balfour, at Fisher's Hill, Woking, Surrey. He was 81 years of age last July. An account of Lord Balfour's life and work in the realm of philosophy will appear in a subsequent issue of the *Journal*.

THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES

(Incorporated under the Companies Acts 1908-1917 as a Company not for Profit but limited by Guarantee)

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† C. D. BROAD, M.A., Lit.D., F.B.A.	G. LOWIS DICKINSON, M.A.

* By the Memorandum of Association a member of Council on accepting lectureships with fees *ipso facto* ceases to be a member of the Council or Governing Body, and shall only be eligible for re-election after he shall have ceased to hold such office. This provision applies to those original members of Council whose names appear in the syllabus as lecturers for the Session 1929-30.

† Members of the Executive Committee.

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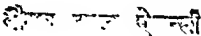
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SCIENCE AND ART

PROFESSOR S. ALFVÄNDER

I

My object in these lectures^{*} is to show that Science is a form of Art, though not of fine art, in other words, that it is one example of a process of which fine art is the most obvious example, the process of making out of certain materials a result into which the mind itself enters. Clearly enough the material of the artist, whatever it be, marble or paints or tones or words, is moulded by the artist into a shape which it would not possess unless something in the artist's mind found expression in it. Science also is a product of the mind's interference and is artificial. But it differs from fine art, I shall try to show, in this respect: in fine art the material is controlled from the mind, or at least it is principally controlled from the mind. In science the material is the facts of nature (including of course the mind itself as a natural object), but while science would not be except for the mind of the scientist, the work is controlled from the side of the material itself, and his mind is instrumental to the product rather than in some sense intrinsic to it as in fine art.

It will suit my purpose best to begin by tracing in general outline how science grows, through the interaction of the two elements in it which I have called the material and the mind. It grows out of what used to be called history, as by Bacon, that is a collection of facts, and is most easily illustrated from what we call *history*. We may see the first approaches to scientific history in our newspapers, which consist of two parts, the bare facts collected as news and the comments on the facts in the leaders. The leaders are reflections

^{*} Delivered in the University of Manchester November 1929 and in London for the British Institute of Philosophical Studies February 1930.

upon or interpretations of the news in the light of the policy or principles professed by its editor, in politics or literature or economics or music and the like according to the journal's interest. But it fails to be a science for two reasons. First that its principles, if it is an ordinary newspaper, are practical and concerned with affecting public action, and secondly, that news and leaders are strung together and are not organically connected. However, in a great newspaper like *The Times* or *The Manchester Guardian* there is a pervading spirit which, to a certain extent, approximates the paper to a work of science.

Such a newspaper is a great deal more than a mere chronicle, for it reviews facts in the light of ideas. We get history proper when the ideas which the writer brings to his news or facts are no longer purely practical but theoretical. This at least is the first element in the transition from the journal to history. The facts are co-ordinated not so as to serve as the text for policies of practice, but so as to bring out the meaning of the events of the period under consideration. The meaning of the facts is gathered by the historian's mind, using its appropriate ideas—which are suggested by the facts themselves but acquire distinctness as he goes on—because he starts hypotheses as to the significance of his subject, and is helped therein by all kinds of knowledge or imagination that he brings with him from his knowledge of life or from his acquaintance with other periods of history. All these helps or adminicula he uses as the leader-writer uses his practical principles, and there would be no history proper except for his intervention. But we note at the same time that however fertile he may be in his resources of interpretation, he is bound, on pain of being unhistorical, to keep strictly to the facts, or as I put it, he is, for all his artistry or manipulation, controlled by his material. To arrive at their meaning he must select, and he may illustrate or interpret so as to co-ordinate the facts, to make the essentials stand out and the trifling or inessential data slip out of the focus, to get a consistent picture if he can or so far as he can. But he is a scientific historian only if in organizing his material he does not distort. He would not naturally falsify, but falsification may come about in effect, not in intention, if he selects, say, to heighten the picturesqueness of his narrative or to over-emphasize salient features of a character or of a party.

In this process from the chronicle to the history we can see thus both science and art, as fine art, playing their part, and always because of the mind's intervention. Various histories illustrate these features in differing degrees. Gardiner's history of the Civil War betrays very little of the artist, but is an admirable example of scientific history, which, far away as it is from the chronicle, and bringing out the great movements in men's minds during that period,

and even full of luminous ideas of statesmanship which the author brings to the understanding of human things, is, as far as a layman can judge, rigidly faithful to his data, impartial and even austere, so much so as perhaps to repel. On the other hand, Macaulay is far more of an artist, and sometimes forsakes the duty of the historian to use the freedom of the artist, by onesidedness, and what must be called, however agreeable is its effect, abstractness, heightening the colours or the shadows and sometimes not free from prejudice. In judging the greatness of a historian both scales have doubtless to be used.

The co-ordination of facts by ideas supplied from the mind, or at least through the mind's action and yet moulded to the facts, is, however not the whole of the difference between history and chronicle. Along with the work of organizing there goes the process of testing the facts themselves, so as to secure precision. Thus the facts which control are themselves in part the outcome of the effort to create the work of art which embodies them. This demands in the historian expertness in description, and has led to technical sciences like palæography or chronology, the first example of which last science was, I believe, the elder Scaliger's work, and it requires skill in estimating the value of evidence, the skill of the scientific judge, so as to sort out the data which are worthy of belief. So intimately then is the scientific treatment of facts dependent on the historian's mind, not only for collating ideas but for establishment of the facts themselves.

When history takes its higher flights, as in recording the whole life of a nation, or still more when it becomes comparative, as it unavoidably does, and includes many nations, or when it traces a department of civilization (*e.g.* Lecky's two famous works), or reaches to what has been attempted as the philosophy of history—it exhibits more and more the use of hypothesis to supply connecting clues, the larger sweep of mind which can make a conspectus of great tracts of time and human motives at work *therein*, and betrays more and more the controlled art, and therefore not fine art, which is exhibited at its lower level in any historical work that can be called scientific.

It has sometimes been denied that history can ever be a science, except so far as scientific methods are used in the technical ascertainment of facts. It should be clear by now that this is only partially true and misses the essential. It is only true in the sense that history is not physical science, for when it begins to furnish laws of human nature or generalizations, it tends to lose its character of history and to become the science of sociology. Even within its proper range it is scientific, like the biological sciences, because of its control by its material.

But it does in another respect resemble rather fine art than science. For it is concerned with individuals and series of individuals, and individualization as contrasted with generalization is a distinctive mark of art. Hence the close affinity of history with the drama. Even so a contrast of real history with one of Shakespeare's Histories or with what closely resembles these in our own time, Mr Strachey's *Elizabeth and Essex*, is enough to mark off history from fine art. For these dramas claim the freedom of art from control by the facts and use the narrative not as history but as material to exhibit play of character under historical names, and they have thus the universality which Aristotle made the characteristic of drama. History is, in fact, a connecting and transitional link between science and fine art, sharing with the one its subjection to things and with the other its limitation to individual existence.

Although history is the form of science which is the least developed in the sense that it is more like literature than other sciences, our description of it has brought out the two features which it shares with every science. The first is the freedom which it owes to the movement of the mind amongst the facts, organizing them so as to make them significant, much in the same way as the astronomer groups his stars into constellations (an example used so often by Mr Eddington). The second is the restriction of the mind in this process by the facts themselves, much as if the stars compelled the astronomer by virtue of their special relations to each other independently of their mere spatial proximity, so to group them, as the parts of an animal body compel us to consider them as more intimately connected with each other than with things outside them.

Now it is this second feature of control of the mind by the material which is so palpable in history when we compare it with the other sciences or with fine art. What distinguishes the natural sciences, and above all the physical sciences and mathematics, is the increasing entry into them of the mind's freedom of construction.

The biological sciences mark the transition to physical science, they are more like history and less like mathematics, and there is consequently less artifice in them than in physics. Between them and physics comes chemistry, which is fast approaching the condition of a branch of physics.

Botany and zoology begin as natural history, and they retain to the end the qualitative character, which increasingly disappears from science to be replaced by the metrical or quantitative character 'History' or the collection of facts in biology, as it becomes more methodical and systematic and precise, becomes dignified with the name of morphology. But as these sciences grow and become more scientific, that is approach to the ideas of the physical sciences, not

only does generalization enter, but measurement, and again, introducing experiment, they become physiological and admit of the statement of laws. Darwinism illustrates excellently both these aspects. It is a qualitative theory, and not a metrical one. At the same time it is an immense historical comprehension, and indeed it strikes the note of the historical method in science, which came to be so marked a feature in thought as men's minds swung back from the rationalism of the eighteenth century and from the so-called mechanical philosophy. It may be noted, by the way, that Mr. Whitehead's introduction of the idea of organism into physics and philosophy is avowedly a reaction from the mechanistic philosophy of physics in our own day, after the triumphs which that philosophy had won in actual physical investigations right on to the end of the nineteenth century. Moreover, Darwinism, besides being a great historical synthesis, offered in the notion of natural selection a physical law regulating the historical procession. With Mendelism we have introduced into historical biology the metrical method of statistics, and something in biology approaching the atomic theory in physics and chemistry, in the search after units still qualitative and far removed from the units of chemistry, underlying the genealogy of living forms.

Perhaps the best illustration of the effect of experiment on the lifting of biology from history to science or artifice is to be seen in the growth of scientific medicine. Medicine, which in its beginnings is purely empirical (for I need not go back to its kinship with religion), owes its scientific standing to physiology, which does not merely observe, or even employ experiment as a help to observation as in statistical inquiries, but relies from the beginning on experimental interference with the course of life, and is able to establish laws. At the same time, if any one needed convincing of the artificial character of science, he has only to observe how completely this master science of life is a creation of the mind by observing that for the most part in his experiments the physiologist isolates the separate portions of the body, as for instance in a nerve preparation, and observes the laws or regularities of their separate workings. He has consequently to correct this artificiality by precautions to interfere as little as possible with the organic connections of the part under experiment, as for instance in careful vivisectional experiments. I may instance the knowledge acquired by experiment of the co-ordination or integration of nervous impulses and of the paths which nerve impulses travel. Sometimes by events, which are disastrous for the patient but fortunate for science, nervous lesions from disease or war may take the place of experiment, as in the well known observations of Sir Henry Head.

At the same time, in pointing out how science grows away from

history through artifice, and the increasing share of the mind in its creations, I am intending no depreciation of history as such. It will, in fact, be one of my main contentions that science, even at its acme in physics and mathematics, never frees itself completely of history, and artificial as it is this dependence on history prevents it from being artistic.

Chemistry, which comes next in the series is so interesting from our point of view because almost under our eyes it has been changing from a historical to a semi physical science. Qualitative it remains: the elements are distinct in quality as much as the species of animals and plants. But there have been two processes going on, which are not altogether distinct from each other. One is the mitigation of the qualitative distinctness of chemical substances by uniting the elements into one great synthesis comparable to the Darwinian synthesis in biology, the other the way in which the conception of the molecules and the atoms has become geometrical, a process described so excellently by Mr. Meyerson in his book *La Deduction Relativiste*.^{*} Already chemistry had learned to shed fictitious qualitative conceptions like those of caloric and phlogiston, which were in fact the qualities of heat and combustibility made into substances, very much in the same way as the early Greek physicists thought of love and strife, which were causes of mixture and separation, as being physical things or elements like the four elements of earth, air, fire and water. Mr. Meyerson happily recalls (ch. xxi) the "dormitive virtue" of opium, by which Molière's candidate for a degree in medicine declares that opium makes us sleep. These virtues became actual substances. But when once these fictions were banished by Lavoisier at the end of the eighteenth century, there began the attempts to relate the different elements to one another which culminated in Mendeleef's great synthesis. According to this the elements, when arranged in the order of their atomic weights, fell into groups or constellations, which repeated each other in their chemical and physical properties. The presumption underlying the synthesis is that the elements are connected together genealogically, and are ultimately derived from some one substance by descent. This has, of course, been confirmed by the discoveries made about radium, certain elements being experimentally produced from others through loss of the constituent electrons. So far the movement has been comparable to the Darwinian synthesis, but more penetrating.

But along with this, and in fact part of the same movement, there has gone the spatializing of which Mr. Meyerson speaks by which molecules are exhibited as containing their atoms in a certain spatial

^{*} Paris 1925.

arrangement, the atoms holding hands as it were in a kind of dance. Many years ago W. K. Clifford compared the molecule of benzene to a game of "here we go round the mulberry tree" played by a ring of children. Moreover, not only is the molecule spatialized in this physical chemistry, but in recent times the atom itself has been spatialized into the conception of a central nucleus made up of units of positive and negative electricity, with electrons or units of negative electricity revolving around it in orbits like those of the planets. Whether this conception is final remains to be seen, it has apparently broken down under the difficulties presented by the quantum theory. Those difficulties, however, concern the notion that the electrons can be treated as if they were small pieces of matter. It would still remain that in the advance of chemistry, as the science is handed over more and more to the physicists the qualitative character of the science is replaced by a metrical character.

For us, what is chiefly to be noted is that chemistry, in ceasing to be purely qualitative, has become more abstract, for it is more abstract to identify a colour by the wave-length of its light than by its sensible property. More science, if it means greater power to the mind in comprehension of its material, means also greater assertion of the mental element in the science and greater intrusion of artifice.

For reasons of convenience, I propose, instead of passing on directly to physics and mathematics, to dwell on a further aspect of the artificiality of science which would more properly come at the end of the survey of the sciences. Hitherto, in the historical and semi-historical sciences, I have been concerned to indicate how the science depends for its existence on the entry of the mind by means of its hypotheses and co-ordinating notions. It has, however, been sufficiently plain that the freedom of the mind's movement has been rather instrumental than constitutive, though when we come to physical chemistry, the spatial construction of the molecules has been eminently a piece of the mind's own ingenuity. Still, the ideas which the mind uses, though inventions of the mind, have been directly suggested by the facts considered, and what is more important, the characters of things embodied in the ideas belong clearly to the things themselves. Natural selection, for instance, in the beginning a hypothesis, was not only suggested to Darwin's mind by the procedure of animal breeders, but so far as it is established is a process which is actually operative among animals or plants. In fact, the doubts now raised which call the theory in question are doubts as to the limits of the process in actual fact. The arrangement of the atoms in the molecule is actually, or at least pretends to be actually, present in the molecules. Such ideas are on quite a different footing from the idea of a twelve- or even a

five dimensional world adopted for convenience in manipulation of certain formulæ without supposing that the actual world is twelve- or five dimensional

When we come to the physical sciences, the freedom of the mind is so obvious that the difficulty rather is to convince ourselves that in the more speculative branches of physics the science is not wholly an invention of the mind. Parts of these subjects appear to be in the position of the statue which suggests life, though it is dead marble, because the artist has put the life there. I anticipate, therefore the impression produced in these sciences by illustrating the extreme freedom of procedure which the mind assumes to itself in its normal or, if you like, logical procedure. Logic may be regarded as a science even more abstract than physics or mathematics. Now the reasonings of the mind about things are conducted with regard to the mind's own procedure and convenience. The most notable instance of this is the substitution of reasons for natural or physical connections, or, as Bradley puts it, of the 'because' for the cause. A cause is always a reason, but a reason is not always a cause. He gives two illustrations. 'Two coins are proved to have similar inscriptions because they each are like a third, but the cause is not found in this interrelation. The cause is the origin from a common die. If a vessel has sailed for London or Liverpool, and we know that it has not sailed for the former, we argue that its course is shaped for the latter. But is our middle a process of actual causation?' The physical cause is the will of the captain or the instructions of the owners. Now inference is the logical procedure of science, and we use our evidence according to the mind's rules. There is a general logical technique of the sciences over and above the special methods used in special sciences to suit the different subject-matter.

This seems to make science artificial from the beginning. We argue, as in the above examples from what Aristotle called signs instead of causes: since the barometer is falling there is a storm, or from alternatives: and yet it is in our mind that the alternatives are. Or we argue from probabilities: which means upon the strength of evidence, but of evidence which does not amount to proof. And I believe that probability is become a most important part of technical science. But in so far as evidence is insufficient, we reason according to our rules and not from causes.

It must not be supposed that therefore logical methods in their freedom, and as it were their emancipation from natural control, are in reality uncontrolled or arbitrary. On the contrary, on mere general considerations, we have to remember that the mind is itself (at least for our present purposes) a part of nature, and if it succeeds in trying to know about things by following its own nature, we are bound to suppose it is adapted to things, much as an animal persists

because it can make use of its surroundings, and the surroundings respond to it in its reactions to them. Moreover, although reasons are not causes yet reasons are founded on causes, ultimately in the instance of the three coins the coins themselves and the die which stamps them belong together in one system. Alternatives exist in our thought, but things do admit of being arranged into classes which exclude each other, or a kind of event may be produced in different ways, and in this sense there are real alternatives in nature. It has even been maintained that chance is not a mere name for our ignorance or for the insufficiency of our evidence, but in a certain sense really exists, though that sense can hardly yet be regarded as clearly explained. Further, we shall see that in the special ideas of the sciences the mind is perpetually seeking to interpret its own creations in terms of physical things. Thus we invent negative numbers, and straightway interpret them as distances in the opposite direction or the symbol of imaginary quantity $\sqrt{-1}$ is interpreted geometrically in the manner explained by Mr. Whitehead in his *Introduction to Mathematics*.

It still remains true, however far the mind succeeds in establishing a connection between its own creations and things it follows in making science its own bent: the real numbers, for instance, owe their existence to the generalizing of number of which Mr. Whitehead speaks. Truth, therefore, which is the work of scientific inquiry is not the same thing as reality: however closely it corresponds to reality. It needs the mind for its existence, and only as held in the mind's embrace is it legitimate to speak of truth. We have now to realize the other side of the scientific art, that even in its highest and most abstract flights it is controlled by things and is in other words experimental.

I return now, from this interruption, to the exact sciences of physics and mathematics, and here again I shall be concerned to exhibit the two features we have found in the quasi-historical sciences, their artificiality and their control by the facts. That it is an art is more obvious of physics than its control by a non-mental reality. For at an early stage physics becomes metrical and ceases to aim at merely qualitative propositions such as that heat expands bodies. In doing so, in abstracting from the sensible characters of things, it is plainly the work of the mind. And in its later stages, in its efforts at explanation it has long passed the ideal of a collection of empirical laws so carefully stated as to be called causal laws. Even the principle stated by Kelvin, that explanation is only satisfactory when it is possible to construct a mechanical model, has apparently ceased to be accepted. And at the present time, owing to

two theories, that of relativity and the quantum theory, the ultimate formulation of physical laws involves a mass of constructions by the mind which aim at any rate at making physics purely a mental work, corresponding, no doubt, in some sense to the objects of perception, and yet hardly to be described as dealing, however indirectly, with those objects

It is not my business, nor indeed is it within my competence, to describe these two great modern theories. I am only concerned with them in so far as they raise philosophical problems bearing upon the present topic. But roughly I may put them thus. The theory of relativity issues from the replacement of space and time by space-time. The world, instead of being a set of things extended in space which have a history in time, is a world of events, is a four dimensional world, and not merely a three dimensional one which proceeds forward in time. This of itself is enough to dispose of the idea we use in practice of things or substances. Force, which we become acquainted with directly in our own muscular exertions, has long evaporated and given way to the purely metrical conception of the accelerations of bodies to each other. And now substance, an idea which again is suggested by experience of ourselves, is seen to be only a way of describing a group of cohering events, cohering, that is to say, closely enough to be singled out and named. So far physics only continues the process of getting rid of anthropomorphic conceptions. But now the theory of relativity goes on to insist that the separation of space-time into space and time is relative to the point of view (which may be that of a human observer, but need not be) from which the dissection is made. Since the points of view are generally those of human observers, this at first sight makes division into space and time the work of the mind.

The quantum theory is again, to speak very roughly, a theory founded on the discovery that energy exists in units or bundles of units, and not in continuous quantities, so that, for instance, light is given off from an atom in multiples of a certain unit. This atomicity of things provokes a variety of different explanations with which I have nothing to do, but at any rate the conceptions which they employ, some more than others, imply a high degree of mental construction and remoteness from sensible notions. It has even been said that the older notions of the perception of things have to be revised for the new infra microscopic world into which atoms are resolved. Physicists are now occupied with the relation between the older classical physics and the laws of this new region of action.

These inquiries throw into high relief the immensely artificial character of physics, at least in its present state of advance, and they seem to throw doubt on the idea I have used, that however much of an art a science is, it is still under control from a non-mental reality.

Fortunately we have for ourselves in these matters such guides as Mr. Russell's *A.B.C. of Relativity* and his *A.B.C. of Atoms*, as well as his more systematic works, *The Analysis of Matter* and *Introduction to Philosophy*; and as Mr. Eddington's *The Nature of the Physical World*, which may be regarded as a fuller restatement of his article on "The Domain of Physical Science" in the volume of essays called *Science, Religion, and Reality*, published in 1923. It will be convenient to take Mr. Eddington as a text for our remarks, because with him the artistic or artificial character of physics comes out so strongly, and the element of what I have called control drops apparently into the background, which is the very point I am wishing to question.

Physics itself is a closed circle into which the study of consciousness does not enter, but physical objects are metrical constructions which imply the action of the mind, much as the shape of the statue implies the artist's chisel. The objects of physics are groups of metrical characters which are not perceptual objects, but only symbolic of them. In a striking passage Mr. Eddington writes (p. 254): "Our knowledge of the external world cannot be divorced from the nature of the appliances with which we have obtained the knowledge." I add the following sentence because of its bearing on what comes later. "The truth of the law of gravitation cannot be regarded as subsisting apart from the experimental procedure by which we have ascertained its truth." The symbols in question are, in fact, "pointer-readings" from various instruments of measurement. Physics attends only to these readings of weight, temperature, speed, and the like; so that in his familiar illustration of the elephant rolling down a grassy slope, we have one set of pointer-readings "moving" according to another set down a slope also recorded by a reading of its angle. All this is perfectly clear. What is not so clear is that these readings are purely symbolic of the perceptual object, and not merely an abstraction from that object of its metrical characters; in which case the "physical object" would really belong to the perceptual object, in a sense in which the life inspired by the sculptor ~~into the marble does not belong to the material~~, though of course the physical notation might be very indirect.

How much Mr. Eddington emphasizes the part played by mental construction in the making of physical science is best seen by following as far as possible his account of what he calls world-building; how by starting with elements described in the most abstract way possible as *relata* and the relations between them, and assigning to each *relatum* four numbers constituting a monomark (an abstract idea used to avoid calling the numbers co-ordinates which imply space and time), we can exhibit the structure of the world in a formula in which the coefficients correspond to certain concrete concepts like space, time, and gravitation, electricity and magnetism. In

this way we as it were, build up the familiar world out of abstract numbers and their combinations, and can derive certain of the laws of experimental physics. But the way in which mind enters can only be understood when we follow him in the division which he makes of the laws of Nature into three types

He distinguishes (p. 244) (1) identical laws, (2) statistical laws, (3) transcendental laws. The identities are the laws of conservation of energy and momentum and even the law of gravitation, the inclusion of which is one of the most remarkable of his results, one which most provokes reflection. They are "the laws obeyed as mathematical identities in virtue of the ways in which the quantities obeying them are built". They cannot be regarded as genuine laws of control by the basal material of the world. More than once he calls these fundamental laws a "put up job," or truisms, though he adds (p. 237) not truisms when approached in the way mind looks out on the world but truisms when we encounter them in a building up of the world from a basal structure. We find them in nature because we have ordered nature as it were in this form. We have a passion for permanence or an interest in it, the same interest which underlies our idea of substance. "The law of conservation is a truism for the things which satisfy it, but its prominence in the scheme of law of the physical world is due to the mind having demanded permanence" (p. 241). It is as if the bursar of a college should think that he has discovered something in the real life of the college by finding that the accounts balance: he has but arranged that incomings are plus and outgoings minus. In the same way as the different aspects in which the realities of the college overlap in the world of accounts, so the law of conservation represents "the overlapping of the different aspects in which the 'non emptiness of space' presents itself to our practical experience. We can measure certain forms of energy with a thermometer, momentum with a ballistic pendulum, stress with a manometer. Commonly we picture these as separate physical entities whose behaviour towards each other is controlled by a law. But now the theory is that the three instruments measure different but slightly overlapping aspects of a single physical condition and a law connecting their measurements is of the same tautological type as a law connecting measurements with a metre rule and a foot rule" (p. 239). He adds, however, that "the proviso must be remembered granting that the identification [of their subject matter] of energy, momentum, and stress, with certain 'principal curvatures' of the world, 'is correct. From a practical point of view the law would be upset if it turned out that the thing conserved was not that which we are accustomed to measure with the above mentioned instruments, but something slightly different'" (p. 239).

I will quote another paragraph because of its bearing upon what follows. Though consciousness is not itself included in the cycle of physics, yet according to Mr Eddington it exercises "a selective influence on the laws of Nature by choosing the patterns which suit itself." And this (p. 243), is to say "that *values* are created by the mind. All the 'light and shade' in our conception of the world of physics comes in this way from the mind, and cannot be explained without reference to the characteristics of consciousness." That value, at any rate the highest value, such as truth, is created by mind seems to me eminently true. But the question still remains whether the creation depends on the characteristics of consciousness, as I shall urge beauty does, where, for instance, the mind inserts into the marble characters which do not belong to the marble, or whether the mind in science is not rather truly selective, taking from nature by selection what is really already in nature.

I shall return to this later. Meantime let me resume the enumeration of the types of natural law. Besides the identical laws, there are secondly statistical laws, of which the chief is the second law of thermodynamics, that is the law of the running down of energy in the world into the form of heat unavailable for work (the loss of available energy being known as entropy). "Statistical laws," to quote further, "relate to the behaviour of crowds, and depend on the fact that although the behaviour of each individual may be extremely uncertain, average results can be predicted with confidence. Much of the apparent uniformity of Nature is a uniformity of averages." These statistical laws, however, he does not regard as laws of control for they involve a notion of probability for which there is as yet no place in the conception of the world substratum [i.e. the basal structure] (p. 244).

It is in the third group of the transcendental laws that we must seek, according to Mr Eddington, for the genuine laws of control, if there are any. They 'comprise all those which have not become obvious identities implied in the scheme of world-building. They are concerned with the particular behaviour of atoms, electrons, and quanta—that is to say, the laws of atomicity of matter, electricity, and action. We seem to be making some progress towards formulating them, but it is clear that the mind is having a much harder struggle to gain a rational conception of them than it had with the classical field laws. We have seen that the field laws, especially the laws of conservation, are indirectly imposed by the mind, which has, so to speak, commanded a plan of world building to satisfy them. It is a natural suggestion that the greater difficulty in elucidating the transcendental laws is due to the fact that we are no longer engaged in recovering from Nature what we have ourselves put into Nature, but are at last confronted

with its own intrinsic system of government. But I scarcely know what to think. It may be that the laws of atomicity, like the laws of conservation, arise only in the presentation of the world to us, and can be recognized as identities by some extension of the argument we have followed. But it is perhaps as likely that after we have cleared away all the superadded laws which arise solely in our mode of apprehension of the world about us, there will be left an external world developing under genuine laws of control' (p. 245).

It would seem to follow from this that though the external world may be in the end recalcitrant to mind, the ideal of physics is a system of identical laws representing the mind's own will with Nature. Where science has progressed the farthest," he says elsewhere (*Space, Time, and Gravitation*, p. 201) "the mind has but regained from nature that which the mind has put into nature." Such science is of course only 'knowledge of structural form and not knowledge of content'. The philosophical suggestion is that in the end the content itself is the stuff of our consciousness. Thus last suggestion, however, it is not necessary to consider. If the ideal of physics is the one described, physics would be completely an art, conforming to forms of structure chosen by the mind, as the sculptor imposes on his marble the form he chooses, and no part of the material but obeys this form. This would make science at its highest, in physics and mathematics, akin to fine art to a greater degree than seems, as I hope to indicate, to be the truth.

Accepting from Mr. Eddington his picture of world building as practised by science, I would ask whence the mind derives the idea of permanence which justifies us in saying that the laws of conservation are identities. So far as the statement goes, it would seem to be a creation of the mind itself. But there is something like a miracle in this supposed capacity of the mind, unprompted by experience of things themselves to originate the notion of permanence. Precedent for affirming such capacity might be found in the Kantian doctrine of the categories such as substance and the others which the mind introduces into the material supplied by sense, to which, however, of course Mr. Eddington does not appeal. But at any rate, even in the Kantian doctrine, though the categories may be *thought* by themselves (how Kant never explains), they cannot be *used* by themselves. If we suggest that we experience substance in the permanence of ourselves, the answer must be made that if by ourselves we mean our bodies, these are a part of the external world already, and we derive the idea of permanence from what is non-mental. If we answer we have it in the experience of our minds alone, the answer is that we never do have experience of our minds (in what Kant called the inner sense) except in and through the experi-

ence of some external thing—say our own body as the most familiar case or any other external body but some external body there must be. This consideration which is so distinctive of Kant does not receive I think its fair consideration from Mr Eddington. The mind may act wilfully in ordering its physical world but if it does so according to ideas those ideas seem themselves to have come from physical experience and to be in the end empirical or experimental notions suggested by external experience and by the self as the most familiar instance of that experience. We might go on to urge not by way of criticism of the notion of world building from *relata* and their relations that the ideas of *relata* and relations themselves cannot be regarded as creations of the mind but are nothing but abstractions of the most general aspects of concrete experience. Even the numbers which are used for monomarks of *relata* are supplied to the mind not made by it. Mr Eddington himself quotes with approval the famous saying of Kronecker about pure mathematics that God made the integers all else is made by the mind. In general it is safe to say that no idea attributed to the mind's own creation but is derived by it from some experience of what is not mind or at least not without such experience. The ideas which even in a work of fine art are imported into the product by the mind are ideas not created by the mind itself but supplied from its experience of things not minds (unless indeed the artist is portraying mind itself as in a lyric poem). Doubtless these reflections do not appeal to those who like Mr Eddington regard the mind's experience of itself as direct and of external things as indirect whence he is able to speak of physical things as mere symbols of perceptions. But it seems to me as true as to Kant that it is only in and through the experience of external things that we can have experience of the mind itself and if it is a question of which of the two is rather to be called direct, that claim must be assigned to external experience. The mind of which we have direct experience without experience of external things and through that experience is a ghost or to quote a phrase of Lotze's it is as unreal as grinding without grist.

I speak on these matters with some timidity partly lest I should appear to be questioning Mr Eddington's exposition and partly lest I should be really failing to understand him. What I question is merely the authority ascribed to the mind. As I read the case the ground of the law of conservation is the experimental fact that the different measurements are merely different aspects of the same reality. If we then build up the world from a basal structure we choose forms which embody the permanence we have found in nature we find in nature the forms of our choosing because we have chosen them after first finding them in nature.

Perhaps the caveat I am making will be clearer if I go on to his

much more startling proposition that the law of gravitation is a truism or a "put up job." The way in which he shows this is as follows. It is well known that according to the Einsteinian doctrine matter is present where there is a hump or curvature in space-time, that is to say, this wrinkling of space-time is not merely due to the presence of matter, but actually *is* matter. Mr. Eddington in two masterly chapters first of all expounds the law of gravitation, and then "explains" it, the explanation being that it is a truism. For what the formula in the doctrine of relativity states is that the ten principal coefficients in it vanish in empty space, or, what is the same thing in another form, that "the radius of spherical curvature of every three dimensional section of the world, cut in any direction at any point of empty space, is always the same constant length." I must be content to ask you to accept this statement from Mr. Eddington even if you do not understand it entirely, remembering that, as he says (p. 120) "the absolute curvature at any point is measured by a single quantity called the radius of spherical curvature." This condition limits the possibility that the curvature of space-time should be quite arbitrary. Now we need to explain this regularity and the explanation is this. To say that the directed radius is constant in length means that it contains the same number of metrical units, metres, or feet, etc. All length is of course relative to some unit. Thus if the directed radius is of constant length, that must mean that the standard metre is the same fraction of the radius no matter what new position or direction the standard is moved to. But what else could it do, seeing that the radius is distinctive of the region in which the measuring rod comes to be placed? It makes itself the same fraction of this directed length as it did before in its previous position (pp. 140-3).

But is this convincing? It is well known that if a rod is moving relatively to a stationary observer, and is placed in the direction of the movement it shrinks for the stationary observer. For an observer moving with it there is no change, for his standard length shrinks in the same proportion. But in the case supposed of transference of the standard from one position to another we have the standard applied not to its old radius under the new conditions, but to a new radius under new conditions. Why should we be unable to see how it can do anything else but adapt itself to the new radius? Does not the law of gravitation assert that as a matter of fact it does so and is it not this which is the import of the law? Directly you make this assumption, which is verified in various ways, you construct your world scientifically in accordance with it. But that choice does not so far as I can see depend on our inability to imagine anything else but on this character which has been discovered of the world. Once more, if this reflection be well founded, it is not our mind which

settles the matter, but something inherent in the external world which is formulated in the statement of the law given above. Were it not that I do not wish to digress into philosophy, I should say it is the truth that universals are an item in the world.

I have dwelt at such length on Mr. Eddington's statements because he seems to me to exaggerate and even misplace the action of the mind. But before continuing this subject and indicating an alternative view, it may be as well if I digress for a moment to speak of a common misunderstanding of relativity, not irrelevant to our inquiry, but not chargeable to Mr. Eddington. It is the notion that that relativity reasserts the Kantian doctrine that space and time are merely forms of the mind and are thus subjective. What relativity asserts is not that space and time are forms of the mind, but that to separate them is an error, and that the objects of experience are events. But granted that our seeing the world in space and time is a habit due to our weakness and so far subjective, relativity does not mean that therefore our views of the world are relative to us and purely subjective. On the contrary, it means the world is such that from whatever point of view we split space-time in our measurements so as to get different actual measurements, the laws of physics remain the same for all observers or for every point of view. The problem, for instance, in finding a formula for gravitation is to get something true not for me or you, but true for all. "Relativity" is in fact an unfortunate word. It might be replaced were it not for the cumbrousness of the phrase by absoluteness in spite of relativity. Mr. Meyerson has made clear (p. 212 of his *La Déduction Relativiste*) that what the theory aims at is the objective. This is relevant for us, because it means that the universe is such as allowing our minds to use the numbers appropriate to the relative positions and motions of the mind requires them to conform to laws dictated to them and not by them.

Thus, while it is true, as Mr. Eddington says in a passage I have quoted above, that our knowledge of the external world is bound up with our instruments for attaining it, that knowledge, if it is to be true knowledge, that is knowledge at all, is limited by the commands of the universe itself. This may be otherwise expressed by pointing out that the instruments we use in obtaining knowledge are devised by us, in the same way as our instincts and other human capacities are acquired in the course of animal history, in the process of adapting ourselves in order to live in the world to the nature of the world itself, as indeed is indicated by Mr. Eddington himself in a later passage.

The suggestion, then, is that it is not as expressing *itself* that the mind makes the work of art or artifice called physics, but that it creates its work through its instrumentality, not importing into

nature ideas of its own or due primarily to itself, but using its tools so as to fashion out the form of nature by obedience to her. Perhaps we might find an analogy which is not too far-fetched in the unfinished *Slaves of Michelangelo*, where the figure appears to emerge from the marble block. Overpowering as the impression is that we receive from these works, because they show how the great man worked, the adherence of the shapeless block is an accident. In physics it is as if what is an accident in art is part of the essence, as if the form of the slave which is due to Michelangelo were accidental and the marble to whose nature he has to conform were essential.

If this be so, it would remain true that in the highest and most abstract science control is not as Mr. Eddington uses the word, from laws of the basal structure chosen by the mind, but ultimately, sooner or later, the control is from the external world, which is primarily presented to our minds in perception, just as it is admitted to be in the verification by which ordinary experimental laws are established, or for the matter of that in the theory of relativity itself, which was established because it was found to work. According to this there is no discontinuity between the crude stuff of perception and the most abstract thoughts, it is only that thought comes from selection of certain aspects of perceptual matter. Physical objects would not then be mere symbols of perceptual objects, but arrived at by this selective process, which makes science artificial or artistic, to which is superadded the extreme freedom of the mind in manipulating its thoughts by the help of instrumental methods which it chooses. It does not seem true that the elements of the basal structure, *relata* and relations, have no analogue in familiar experience, on the contrary, they are the extremest abstractions or selections from that experience. But it is true that in handling these concepts the mind goes beyond anything found in perception, not inventing new material, but combining its store of material in ways suited to its own purposes. In the end it seems that the physical reconstruction of things from above, if understood as a pure creation of the mind, implies that old contrast of familiar experience and things in themselves which has been so profound a difficulty in philosophy since it was formulated by Kant. It is, however, beyond my scope to discuss the attempts made since his time to remove those difficulties and banish the spectre now apparently revived. On the other hand, the difficulties do not arise, and the spectre remains laid, so long as the new way of approaching the world from its most abstract characters is regarded as a method of rewriting the objective or given world, of which experimental physics writes the record approaching it from the concrete side. The alleged *truisms* then take their place as the record of the highest abstractions which we can make in our selection from Nature. Whether the atomicity of Nature, supposed to be

as yet recalcitrant to mind, shall remain so or be regarded as fundamental laws of basic structure, will depend on whether it is found possible, as in the case of a number or constant curvature, to find concepts from which certain and unavoidable consequences follow so long as these concepts remain integral to the world.

Thus being so, it is illegitimate to suppose a chasm between the brute facts of physical nature as presented in sensible experience of particulars and the most abstract principles, and data of sense are a part of the body of physical science, just as they are in the historical sciences. Facts and principles make up a single system, the facts being massed together for the most part in the form of empirical laws. The rationalized and consequently deductive portion of the sciences is never completely detached from the irrational element, which may always contain surprises. The slave never rises completely out of the block. If it did science would be a fine art, as I have already said. Accordingly it is not so much intrusion of the mind which characterizes science at its highest remove as the rationalization of the subject matter more and more by means of the mind.

The physical sciences have exhibited not only the freedom of the mind in selection from its material and in invention of constructions such as those illustrated from world building, but also the limitation or control of the mind by its subject-matter. The first feature likens physics to an art, the second unlikens it to fine art. When we come to mathematics we find the mind's freedom at its highest, and particularly in pure mathematics, where, starting from the integers, the mind has, by successive stages, constructed whole creations of its own in which there seems to be complete emancipation from any control by reality of a non mental character. No one would subscribe at present to the Kantian doctrine, that mathematics derive their validity from their applicability to sensible experience. Here in these constructions the mind claims for itself complete freedom to follow its own will, and this science might claim for itself to be wholly an art. Examples are the arithmetic, which includes not only zero and fractions but negative numbers, the real numbers and imaginary numbers, the idea of systems of fewer or more than three dimensions, or to describe them generally n dimensional systems, the mathematical theories of infinity and continuity, the transfinite numbers. The constructions thus made seem to be self contained, and they have upon the mind an effect very like the æsthetic impression. And yet even these works differ from works of art, though for a different reason. We denied to the other sciences the claim of being fine art because they were controlled by their subject matter from the outside. Here, while the outside element seems to be wanting, the product fails to be fine art, because the material is itself the mind's

own creation, whereas fine art is always the informing by the mind of a material of sense or imagery given to the mind

Even so the extent of the mind's creativeness in the unbounded freedom of pure mathematics is to be qualified. The products it creates are extensions or generalizations of ideas like integral numbers given to the mind or arrived at by combinations of such ideas, as, for example, the notion of five dimensional systems. It may be doubted if the mind creates a single new quality, as it would if it were true that it could, acting upon its own idea of permanence, invent *e.g.*, the idea of another self distinct from its own. However complex the thought may be, it is, if not suggested by sense, yet derived from elements suggested in the end by sense. The difference may be illustrated from a famous passage of Hume, who, after denying that we could have ideas without preceding impressions, admitted that this was possible in the rare case where we imagined a quality in a scale, say of colours or tones intermediate between two given colours or tones without any previous impression of the intermediate. Hume is probably mistaken,¹ and confuses the *thought* of an intermediate colour which we can well create on the ground of analogy and the actual image of such a colour, to be acquainted with which we should need to experiment, as the painter doubtless does mixing his paints until he finds the satisfying shade.

Perhaps the best way to understand the unlimited freedom of the mind to follow its own bent in these creations of whole regions of scientific thought, in the creation, for instance, of a calculus, is to remember that all science is but practice become disinterested. Curiosity, which begins by being practical the research of gratifications as in a dog ends by being theoretical and is then science. In practical curiosity the end is sometimes interrupted by the need of finding means to secure the end. Now the sciences, in working out the implications of ideas which mind itself creates in the qualified sense just explained may be properly regarded as departments of mental technique. The mind follows in such elaboration its own laws of implication or inference.

And yet even in these regions there is not complete separation of the mind from what is non mental (I remind you of Mr Russell's famous saying that 'mathematics is the science in which we never know what we are talking about, nor whether what we say is true') For pure arithmetic coheres with its basal elements given in whole numbers, and created according to Kronecker by God and not by man. It takes us far away from integers, and never loses touch of

¹ I have however to observe that Mr Whitehead in *Process and Reality* not only accepts Hume's admission as true but takes it as an instance of a fundamental principle. But I leave the text written before I knew Mr Whitehead's book unaltered.

them completely. This is true even when arithmetic is submitted to a still further process of sublimation and becomes a piece of logic, when an integer is treated as a class of classes. For though a class is a mental conception, and there are no classes in actual reality, yet reality does contain individuals which, though not mental, suffer themselves to be so grouped because they possess the same qualities. The connection of mathematics with sensible reality, though we cannot speak of control from that side, is plain in geometry, which cannot now be treated as pure mathematics, but since the supersession of space and time by space time has become a kind of physical science. And though the validity of mathematics does not depend on verification in sense experience as Kant thought, yet the signal triumphs won in physics as recently in the doctrine of gravitation, through application of mathematical techniques devised without any ulterior purpose than the deduction of implications from the premises with which they start, are enough to show that the minds of mathematicians in their extreme cult of the useless are guided by some divination of the useful. This is not so strange. We are back again at the fact that minds are themselves a part of nature and made by adaptation to the rest, and if in following their nature they devise thoughts to which nothing in nature directly corresponds, their freedom or wildness has its roots in Nature itself. It would seem then that, though free from limitation by the non-mental, even pure mathematics is remotely correspondent to Nature, and still less remotely connected with the whole numbers, which, if not sensible things, are at any rate not made by mind.

This may seem and is a long circuit to have fetched in order to establish what is at first sight a fairly obvious and simple result that in science the work of the mind, however free, is controlled by what it sets out to investigate. It was, however, necessary, because it had against it a tendency to attribute an overpowering and constitutive part in science to the mind. The real upshot of the discussion is to show first that science is dependent on the mind, so that without mind there would be no science, but we should be confronted by a real world which we did not understand. So far as this is so, as science proceeds by selection from its subject and elaboration by its own tools, which may be of the greatest abstractness, it creates a body of truth which is more than reality, and is reality as elaborated by the mind and become its possession. So far science is an art. But in this elaboration of its material, the mind introduces no ideas of its own in the sense of being its own creation. The function of the mind in science is instrumental, to construct its work in obedience to and, as I have so often phrased it, under the control of the non mental material. The mind does, of course, intro-

duce ideas from itself into the body of the science, in so far as it brings the riches of its experience of the subject or kindred subjects to bear upon the interpretation or invents hypotheses. But all such introduced ideas are congenial to the subject, and not, like the life introduced by the sculptor into the marble, uncongenial to the material on which the artist operates. Consequently, directly or indirectly immediately or remotely, the ideas which the scientific material admits are found in it and verified by it. So that there enters into every science, as there entered into historical and quasi-historical science the mass of particular facts with which the science begins and which it retains to the end. The mind establishes coherence amongst the facts of perception by means of laws obtained through selection and reflection. The mere laws of the science, except so far as empirical laws sum up the experience of particulars, do not themselves constitute a self contained and harmonious whole. The raw material whether presented in perception or in thought (as in the facts of quanta) is carried into the product, only organized and rearranged. It is true that in the various branches of mathematics the science itself forms a self contained whole, but then the material is itself supplied by the mind itself and simply worked up by logical methods.

It has been my object at once to point out the artistry of science and to indicate where science differs from fine art. It may be useful in conclusion to add to this impression of artistry made by science by comparing the mind's own use of its logical methods, inference and the like, to the technique of the artist. Logic in the ordinary sense is then the science of scientific technique, and the special logical methods of different sciences are comparable to the special technique of the artist according as he works in stone, or words, or paints, and the like. I do not quite see what corresponds in science to what is called style in a fine art, which is a function of technique. Such comparisons are perhaps apt to mislead. For the difference of artistic technique and logical technique is fundamental. The technique of the artist gives meaning to the artistic product. The technique of the scientist does not enter into the very constitution of the work, but remains purely instrumental.

THE PRESENT CHAOS IN PSYCHOLOGY AND THE WAY OUT

PROFESSOR WILLIAM McDUGALL

THERE IS at the present time a bewildering variety of schools of psychology in open rivalry and conflict with one another. The Press and the general public in America at least seem to be aware of only two of these namely the psychoanalytic and the behaviouristic schools and the newspaper writers and the average highbrow are content to mix snippets and catchwords from these two utterly different schools ignoring all the rest unless they add to their shop-window display some uncertain reference to the work of the mental testers.

It is true that the energies of the departments of psychology in American universities are largely devoted to mental testing and to teaching behaviourism. Yet many other lines of research are actively pursued and many other schools are represented. In the universities of Europe on the other hand the psychoanalytic and behaviouristic schools are feebly represented but many interesting developments are taking place all leading away from the psychology that was orthodox and predominant at the end of the last century, and constituting a veritable revolution in the science of human nature. Even the two popularly recognized schools are divided into a number of sub-schools the psychoanalytic doctrines of Freud of Jung and of Adler differ widely while behaviourism is of many types ranging from the subtle and distinguished teachings of Professor Perry of Harvard (of which it is difficult to say why the behaviouristic label is claimed for them) to the crude materialism and rather childish negations of the extremists.

Amidst this diversity of schools only some knowledge of the history of thought can make the student feel at home and enable him to choose wisely among the many rivals competing for his favour. The history of psychology has been grossly neglected in the universities but that state of affairs seems about to be remedied for the last few years have seen the publication of several excellent historical surveys. My aim in this paper is to suggest how the various schools and their historical affiliations may best be understood by relating them to one deep-lying division which we can trace all through the history of European thought, but one which is not defined in any of the historical studies. Tracing this line of division down the ages to the present day we

can by its aid introduce something of order and system into what must otherwise seem a chaotic welter

The clue I propose to use was first given form by Nietzsche¹ when he pointed to two very different attitudes to life and nature, and especially human nature, expressed in the religious beliefs, the rituals, and the arts of Ancient Greece. On the one hand was that view which is commonly regarded as characteristic of the classical period. It represented man as dwelling at ease in a world wholly intelligible to him: if he would but open his eyes to it and freely use his reason. The world was a fair and smiling scene of which man was lord and master. In this scene man's wonderful power of reason, of intellect, would enable him to guide himself without error or mishap: if only he found by its aid some simple formula which should be the cue to understanding of the physical world. At a very early period Democritus seemed to have provided this clue in his doctrine of the atoms and their perpetual dance. Others sought similar clues, Pythagoras in numbers, Euclid in the science of geometry, Archimedes in mechanics, all allied in their aim of achieving a perfectly transparent or intelligible account of physical nature. There were then two great types of agency, Mechanism and Reason, and Reason could fully grasp and master its only rival, Mechanism. It is true there was religion, but in this mode of thinking the Gods themselves were fashioned after the image of man, and stood only a little above him through greater knowledge and more complete rationality: and they tended to fade into little more than graceful mythological figures, useful in the arts as symbols and as ideals of human perfection. The culmination of this view was the identification by Socrates of virtue with knowledge or the reasonable use of knowledge.

This classical Greek view has permeated and in the main dominated European culture all down the centuries as the tradition of intellectualism. Nietzsche called it appropriately the Apollinian view.

Alongside the Apollinian tradition, orthodox and official, accepted by philosophers and taught in the school and the forum, ran a very different current, one less bright, less clear, less sunny, but one which was perhaps nearer to the truth. For this view, man's Reason was but a weak and very fallible part of him, *in itself quite unable* to penetrate the mystery of the physical world, of life, and of man's own nature: and still less capable of controlling the dark depths from which his feelings and his actions spring. According to this view man was not set apart from and above Nature, near to the Gods by virtue of his God-like Reason. Rather he was part of Nature, and Nature everywhere gave glimpses of powerful forces similar to those he vaguely felt at work within himself, forces tremendous and

¹ In his early work, *The Birth of Tragedy*.

THE PRESENT CHAOS IN PSYCHOLOGY

ruthless, neither mechanical nor rational, but rather of the nature of blind strivings, insatiable cravings restless urges towards goals unpredictable, ill-defined, and indefinable, forces at once destructive and creative, forces with which man's Reason was destined to struggle during long ages before it could begin to achieve control of them by way of some dim and imperfect understanding of them. For this view, whatever God or Gods there bedwelt not apart upon Olympus, careless of the world. Rather the divine creative power that had brought forth all things was immanent in Nature and was an awful mystery, not easily to be understood in anthropomorphic terms not easily to be propitiated by gifts and rites not surely beneficent to man but inscrutable and dark ground for fear though perhaps also for hope. But though the intellect was powerless before this dark mystery some understanding of it might be achieved by way of intense feeling and emotion sympathetically shared. Hence alongside the officially accepted religion of Olympus was another religion of Nature worship culminating in the Dionysian mysteries and behind Olympus lurked the dim and awful figure of Fate or Destiny to which the Gods themselves were subject. This world view contrasting so sharply with the Apollinian Nietzsche proposed to call the Dionysian. The Dionysian view of man may be said to have been given sober and scientific formulation by Aristotle the great biologist, in his essentially teleological or purposive psychology, in his recognition as the fundamental biological fact of *horme*, the urge within every creature towards the realization of its specific form and destiny.

To the modern mind it may seem fantastic to assert that these two opposed world-views have never ceased to struggle for supremacy, and still survive as active rivals. But such is the fact, and at the present time they are entering a phase of their long struggle more acute, more defined, more decisive than ever before.

Let us skip the Middle Ages to consider the modern age alone. For the Middle Ages of Europe were a period in which the natural course of development of European thought was distorted and overwhelmed by the dominance of the Christian Church with its authoritarian claim to impose a supernaturally revealed religion.

The Renaissance was a rebellion against the authority of the Church and a revival of the Apollinian world view. With it came the beginnings of modern science in the work of Kepler and Galileo. Descartes gave to the movement the shape that it was to retain throughout the modern period. He extended to the organic sphere, the world of life the strictly mechanical principles of the astronomers. He represented all animal bodies as mechanisms in the strictest sense, as machines and nothing more. By aid of his brilliant foreshadowing of the principle of reflex action he made plausible the view that every animal action was the outcome of a strictly deter-

mined sequence of purely mechanical events. Thus all of Nature, every natural event, was made to seem perfectly intelligible. Man alone was an exception: to his bodily machine was attached a rational soul which could interfere with the mechanical processes of the body, guiding them according to the light of Reason.

Descartes thus founded the mechanistic physiology, which, beginning with the muscles and the organs of digestion, circulation, and respiration, seeking mechanical explanations of all their processes in terms of an atomic chemistry modelled upon astronomy, ascended to the brain, and claimed to find all its processes to be equally explicable in terms of the same mechanical principles.

The brilliant successes of the principles of strict mechanism in the physical sciences, and their initial successes in biology, gave to these principles an immense prestige which prevailed throughout the eighteenth and nineteenth centuries and only quite recently has begun to wane.

Newton gave precision and new confidence to the Apollinian world-view by showing how completely the strictly mechanical principles render intelligible the motions of the heavenly bodies. The whole of Nature was viewed as a vast but perfectly intelligible mechanism, itself created and set in motion once for all by the Supreme Reason. And man, with his mysterious participation in the life of Reason, was but a helpless spectator of the strictly determined course of events.

Thus the Renaissance and Descartes led to an age in which the Apollinian view seemed to have finally triumphed, the age of Spinozistic pantheism, a clean-cut piece of Apollinian intellectualism, the age of Reason, of the Deists, of Voltaire and Newton and Pope.

The guesses of Democritus, the poetic fancies of Lucretius, had become the accepted creed of a science growing every day in authority and power. And it became the task of Philosophy, a task with which she has vainly struggled throughout the modern period, to reconcile this scientific view of the world with moral and religious beliefs, beliefs that seemed to be indispensable if man was not merely to live, but to live with some hope of living well.

In the eighteenth century, then, the Apollinian view was triumphant, and psychology, the theory of the nature of man, conformed to the prevailing intellectualism. The cosmos was a vast mechanism, the mind of man merely reflected this mechanical cosmos in an imperfect manner, and the problem of psychology was to give some account of the way in which this passive reflecting took place. John Locke, taking up Plato's great word, *idea*, gave it a new meaning by taking over also the ancient theory of perception propounded by Democritus. Ideas are subtle little copies of things which somehow get into the mind through the sense-organs. And having thus mys-

teriously entered the mind, there they are, the content of the mind; the mind itself being but the empty receptacle, the clean vaven tablet in or on which these copies are received and stored. Then came Hume with his doctrine that there is but one law and one principle according to which the play of ideas takes place, the principle of association. And David Hartley, the physician, presently showed that this principle of association might be regarded as a purely mechanical law of the brain-processes. Thus the Reason of Descartes was resolved into the play of mechanical processes and his soul shown to be otiose.

These simple mechanical principles were carried over to the nineteenth century and actively developed by the Mills, father and son, by Herbert Spencer and by Bain. And in Germany, Herbart gave currency to a very similar psychology, of which also the essence was the mechanical interplay of ideas.

Thus Reason which Descartes and Newton had allowed to man as his sole distinguishing mark, was itself reduced to the play of Mechanism, and the Apollinian view of the complete intelligibility of man and Nature was apparently perfected, but at the cost of destroying Reason itself, the absolute competence of which to the interpretation of the world had been its initial postulate. Man had become a mechanical microcosmos that merely reflects the equally mechanical macrocosmos, his Reason an irrational excrescence upon a mechanistic universe, a universe of mechanical events of wonderful complexity, but empty of creative activities.

In the later nineteenth century the Darwinian theory gave new confidence to those who accepted the mechanical interpretation of life, of man, and of Reason itself, and psychology became experimental and strictly "scientific," that is to say, modelled upon the physical sciences. It is true that the relation of the ideas (which were said to be the substance of the flux of consciousness) to the brain-processes, which they seemed so faithfully to accompany, remained utterly mysterious. But this mystery was for the time successfully shelved by the doctrine of parallelism, or the allied doctrine of epiphenomenalism, according to which the ideas are, as it were, semi-real shadows cast by the mechanical events of the brain. Wundt, the founder of the experimental method in psychology, though he claimed to be a voluntarist, contributed mightily to the predominance of the mechanical view of man, largely by rendering orthodox the theory of psycho-physical parallelism. We see this most clearly if we consider the psychology of the late Professor Titchener of Cornell, Wundt's most faithful disciple, who carried his principles to their logical conclusion. In Titchener's hands psychology becomes, not the science of mind or of human nature, but merely the attempt to render a complete analytic description of states of consciousness.

conceived as complex conjunctions of ultimate atoms of consciousness, a psychology of processes, but no activities, a psychology that refuses to take any account of meanings and motives, and thus, since it has no bearing on the problems of human life, which are essentially problems of meaning and motive, relegates itself to a position of academic seclusion

In France the development of psychology ran a parallel course through the nineteenth century. French science and philosophy have been predominantly Apollinian, priding themselves on their clarity and rationality. Laplace, with his claim to make all events strictly predictable by the mathematician, and Condillac, who converts his mechanical model of a man into a real man by adding to him one sensation after another, these are the typical French thinkers. And we see the tradition culminating in the atomistic mechanical psychology of the earlier works of Professor Pierre Janet, the contemporary dean of French psychologists.

The predominant philosophies of the modern period have run on two parallel courses in the positivist and mechanist naturalism of Comte and Spencer and in the pure intellectualism of the idealists. Consider the culmination of the latter with the English Hegelians. Bosanquet accepted psycho-physical parallelism and the validity of the mechanistic interpretation of life and mind. Bradley, his colleague and leader, declared that the use of the term "activity" in psychology was a scandal.

I said just now that Titchener's psychology was the logical outcome of the Apollinian tradition. But certain American psychologists claim the distinction of having carried the process one step farther, a step which, whether logical or not, was natural enough. I mean, of course, the development of Behaviourism, a childish caricature of the Apollinian ideal of perfect intelligibility. All human action is made to seem perfectly intelligible by reducing it to nothing more than a series of mechanical reactions to physical impressions, reflexes, and conditioned reflexes, the stream of consciousness, since it is denied all influence upon or share in these processes, is ignored, as unworthy the attention of any serious person. This ideal result is achieved by resolutely turning the eyes away from all the many facts that will not fit into this too simple scheme, and by refusing to recognize the problems which those many facts so urgently press upon us. That step I say, was natural enough, so natural that it has found high favour with multitudes of freshmen and sophomores and with a half-educated Press.

So much for the Apollinian tradition in psychology. It has arrived at an impasse, has provoked its own Nemesis in the form of radical Behaviourism. It has achieved its own *reductio ad absurdum*.

Let us go back to pick up the traces of the Dionysian tradition. At

the beginning of our era it was represented by the religion of Mithra, at that time a serious rival of the Christian religion. Christianity itself, with its doctrine of sin and redemption, may be said to have embodied it. But we jump again to the modern period. There for long it was literally snowed under by the new-blooming of the Apollinian view, which, in spite of its proud claim to sweetness and light, to unimpassioned rationality, was in fact an orgy of intellectualism, whose devotees were intoxicated by the successes of the mechanical theory of the world.

We find only sporadic expressions of the Dionysian view. Jacob Boehme's mysticism was one such. Another is Pascal's famous aphorism, 'The heart has its reasons of which Reason knows nothing.' It is chiefly the poets rather than the professed thinkers who express it. It would be easy to cite many passages from Shakespeare in illustration. "After life's fitful fever he sleeps well", or, "Sir, in my heart there was a kind of fighting, that would not let me sleep." Our indiscretion sometimes serves us well, when our deep plots do fall, and that should learn us there's a divinity that shapes our ends, rough hew them how we will." But the Apollinian current was too strong even for the poets, and Pope's *Essay on Man* and Herrick's trivialities take the place of true poetry, which is borne only on the Dionysian stream. In science it makes a feeble and little regarded stand against rationalism in the doctrine of the vital force.

At the end of the century a Dionysian revival finds expression in the romantic movement of which the poets Goethe, Wordsworth, Coleridge, and other nature poets were the mouthpieces.

About the same time it flourished in the Scottish school of philosophy, in the formal works of Dugald Stewart, Hutcheson, and others, until Bain capitulated to the rationalism of the English Association school. In France appeared one powerful, but isolated, exponent, Maine de Biran. In England utilitarianism was dominant. It claimed to be a purely rationalistic philosophy based on the intellectualistic psychology of association. Yet its most powerful exponent, Jeremy Bentham, introduced into it psychological hedonism, the doctrine of pleasure and pain as the springs of all human action, a perverted Dionysian element which could never be intelligibly combined with the pure rationalism of the association psychology. In Germany there was a brief outburst of Dionysian thinking in the nature philosophers. In the persons of Oken and Schelling it ran amok, brought disrepute upon itself, and was utterly repudiated by all the academic thinkers.

In the middle of the century came the beginnings of the present Dionysian revival in philosophy and psychology. Schopenhauer, with his teaching of the primacy of will, and von Hartmann, with

his mysterious Unconsciousness and its all powerful impulses broke away from rationalism and founded a truly voluntaristic or hormic psychology Lotze, in his restrained and sober fashion shows something of this influence And indeed from this time many of the psychologists began like Wundt, to render lip service to the Dionysian view to admit if only in words that will and impulse and feeling and emotion are not merely incidental accompaniments or attributes of nor yet complexes of sensations and ideas but rather the very core and foundation of man's being, to which his intellect and reason are accessory and subservient developments An intermediate unstable position was found by those who, like Brentano and Stout and Kulpe could not content themselves with a purely passive flow of ideas and, without adequately recognizing the intellect's vast foundation of subconscious impulse and desire, sought some place for true activity within the intellectual processes themselves

The so called functional school of American psychologists represented by Angell and Woodworth belongs here, presenting as it does a mechanistic basis with some uncertain and incompatible admixture of hedonism and a touch of the truly Dionysian hormic psychology

It was Nietzsche who pointed the way to a thoroughly Dionysian view of man and to a hormic psychology which sees the creative urge to activity as the common foundation of human and animal nature a psychology which frankly admits the obscurity of this foundation without seeking to disguise it in a cloud of words which refuses to pretend to the illusory clarity that comes from the acceptance of rationalism and mechanism a psychology which recognizes as obscure many problems that truly are obscure, which admits that we are very far from an adequate understanding of man or Nature and insists chiefly that we do not distort and falsify the immediate teaching of experience in the interests of the spurious clarity and symmetry of a rationalistic system It gives the name 'instinct' to these obscure racial foundations of our active nature, without pretending that in naming them it has made them intelligible

Instinct is thus restored from the debased and false conception of it by the rationalists from Descartes onward, as a mere link in a *mechanical* sequence, and becomes at once the deepest foundation of human nature and the prime problem of psychology Man is conceived as having his roots deep in Nature and in common with the animals and the animals are no longer mere machines, but, in their various grades express however humbly, the same obscure but powerful forces which have shaped all life formative constructive, anergic creative forces of which we obtain some understanding only through experience of their working within ourselves

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and by sympathetic intuition of them in other men and other forms of life

This is the essence of the Dionysian view of man which just now is coming rapidly to the front displacing the threadbare and sterile view of man as a machine plus Reason, or as a machine whose Reason is but part of the mechanism. In France, Bergson has given it, in very independent fashion, a powerful advocacy. In the German world we see it attaining great influence in the somewhat distorted one-sided psychology of Freud and Adler and in the more rounded and comprehensive psychology of C. G. Jung, for all of whom Reason is but a feeble shoot springing from the deep, dim, massive foundation of subconscious strivings of the instinctive tendencies. We see it in the personalistic psychology of William Stern of Hamburg, in the now very influential school of *Geisteswissenschaftliche* psychology, of which Spranger is the best known exponent, also in the *verstehende* psychology of Erisman and Jaspers and others, who frankly renounce the attempt to explain the course of mental life, seeking rather to understand it sympathetically and intuitively. These schools have rejected the mechanistic intellectualistic psychology, because they have found it useless as a basis for the various social sciences and for application to the practical problems of education and psychiatry. We see a cautious trending in the same direction of the now so influential *Gestalt* or configuration school of Wertheimer and Kohler. And Nietzsche's view is being directly expounded and developed, by Ludwig Klages and Hans Prinzhorn, as a psychology of personality or of character, a characterology, as they prefer to call it. Common to all these schools is the repudiation of the mechanistic principles of explanation and of the attempt to describe our experience as a composite structure of atomic elements, and the recognition of purposive activity, as something other than and at least as fundamental as mechanical process. And coinciding in time with this revival of the Dionysian view of man comes the revolution in physical science which is showing the inadequacy of the mechanistic principles even in the physical sciences, and throwing grave doubt upon the validity, even in the inorganic sphere, of rationalism's favourite dogma, the strict determination of all events.

The physiologists are coming into line. J. S. Haldane, distinguished among British physiologists for his many exact measurements of bodily processes, declares in his recent Gifford Lectures that to say as so many do, in parrot-like repetition, that physiology is revealing the mechanism of life is mere claptrap. In America three at least of the leaders in biology, Jennings and Herrick and Lillie, are in open rebellion against the mechanistic physiology. Two of the most influential psychologists of America are peculiarly interesting in this

connection William James represented very clearly in his great work, the *Principles of Psychology*, both types, without attempting to reconcile them, the Apollinian in his physiological speculations and his sensationism, the Dionysian in his recognition of the subconscious activities, of freedom of will, of creativity, and in his life-long interest in the varieties of religious experience and in the obscure phenomena of "psychic research." In this duplicity of outlook he not only expressed the width of his sympathies, but also he well represents the time in which he flourished.

Munsterberg represents the transition from the one type of Psychology to the other in a more explicit manner. Much more concerned than James ever was to attain formal consistency of doctrine, he began by accepting and teaching very confidently the rationalistic mechanical psychology. Then, in middle life, he became interested in the problem of values and in the various practical applications of psychology. Now, in a purely mechanistic world there can be no valuation and no values, and for pure rationalism there is only one value, namely logical consistency. And, when we come to make practical applications of psychology, we soon find that man is any thing but a piece of mechanism which in some utterly mysterious and passive fashion mirrors the world about him. And so these two interests naturally led Munsterberg to realize the limitations of his mechanical rationalistic psychology, and to attempt in his last book to construct a psychology of a radically different kind, namely a purposive psychology. He went over to the Dionysian tradition, for the clearest sharpest distinction between the Apollinian and the Dionysian view is that the former leads inevitably to a psychology fashioned after the pattern of the mechanistic atomism now obsolete in the physical sciences while the latter recognizes the all importance of purposive striving and tries to trace the development of human volition in the increasing range of foresight which transforms the subconscious cravings and purblind urges of the animal plane into far sighted intelligent efforts towards distant goals and high ideals.

I suggest then, that we may most profitably group the many schools of psychology of the present and the past according as they reveal the predominance of Apollinian intellectualism or of Dionysian intuition, finding in this a principle of classification more significant than any other and especially we find in it a clue with which to thread our way among the many existing rival schools towards the psychology of the future, which at last shall be able to assert its true place as the crown of the biological sciences and the base of all the social sciences.

In conclusion, a word about the relation of the Dionysian view to metaphysics. European metaphysic has been in the main the attempt to reconcile the facts of experience with a rational, an Apollinian,

THE PHILOSOPHY OF A BIOLOGIST¹

PROFESSOR LEONARD HILL

WITH the progress of science we become more and more aware of the undiscovered and of our feebleness to visualize or express what is dimly known to us. Geologists estimate that man evolved some 1 000 000 years ago on an earth which astronomers say is some 2 000 000 000 years old. Caution is required in accepting such figures for we must remember how far out Lord Kelvin was in estimating the age of the earth—before the discovery of radium. Man has been civilized for some 5 000 years and Galileo with his telescope and revolutionary ideas lived some 300 years ago. There may be we are told a million million years before the sun grows weak and the earth becomes farther from the sun so that all life freezes. Long before this man may use up the metals available for his machines and those ready sources of energy now so wastefully used by which he at present multiplies and swarms in cities. In such case he will return through birth control or famine or both to a simple uncrowded pastoral existence. There is little likelihood of his being able to use atomic energy other than that which reaches the earth as sun radiation and is available directly or as energy stored in water power wood coal and oil.

Research in the laboratory is based on simple relations between cause and effect and the scientific knowledge so gained hour by hour is vastly extending inventions only by means of which men swarm in cities.

At the present time we have among us great astronomers and physicists and every new experimental observation is tested as to whether it can be explained by existing theories and if not to find the modifications necessary to include it in the general theoretical scheme of natural processes. The formulæ of modern science are judged by their capacity for describing the phenomena of nature with simplicity accuracy and completeness. It does not matter whether the formula corresponds to ultimate reality for all progress is made and tested by experimental operations. The essence of a physical theory says J. J. Thomson is that it should be expressed in terms of concrete quantities of which we have experience and transcendental space is not one of these. An attempt is made to form a model which will supply a mental picture of what is taking

¹ Lecture given to the British Institute of Philosophical Studies February 11 1930

place in the physical phenomena under consideration Faraday was so guided, there is not an algebraical symbol in his *Collected Researches*. The admitted incapacity of scientific men to grasp reality does not therefore justify anyone turning to table rapping, spookery, and other modern witchcraft. Theory—regarded as a tool, not a creed and based on operation and observation—has led astronomers, physicists and biologists over and over again to fresh operation and observation and new discovery. Spookery and telepathy have added nothing to human knowledge.

“That which captivates their reasons and leads men of sincerity blindfold from common sense, says Lock, will when examined be found to be some independent ideas of no alliance to one another, by education custom and the constant din of their party, so coupled in their minds, that they always appear there together, and they can no more separate them in their thoughts than if they were but one idea, and they operate as if they were so. This gives sense to jargon demonstration to absurdities and consistency to nonsense, and is the foundation of the greatest I had almost said of all, the errors in the world’ Let custom from the very childhood have joined figure and shape to the idea of God and what absurdities will that mind be liable to about the Deity.

While the Assyrians some four thousand years ago accurately noted movements of the heavenly bodies, and the Greeks laid the foundations of mathematics and even conceived the motions of the solar system and an atomic structure, the recent discoveries of electricity, X-rays, cathode rays, radio active elements, the perfected methods of observation afforded by the modern telescopes, microscopes, spectroscopes, electrometers and amplifying valves, etc. have, with the help of mathematical equations such as Maxwell's, which were, be it noted, founded on a model so widened knowledge that we are the first to have evidence of an infinitely large and an infinitely small universe. The astronomers have evidence of the existence of two million nebulae each spinning a universe similar to our own galactic universe, in this alone there exist some millions of stars. Light travelling 186 000 miles a second has taken 140 million years to reach us from some giant star just visible in the most distant nebula. Bigger telescopes will reveal more and yet more nebulae. If a circumference be set to this universe containing unknown millions of nebulae, probably only about 20 per cent so far are visible may not this universe be but a unit in something bigger? We are told that the number of the stars in the whole of the two million nebulae is such that if stars were grains of sand, the grains would cover the whole of England hundreds of yards deep. Our earth is one millionth part of one such grain, and we bother ourselves over questions of social rank. In estimating his position in the universe, man, says

Jeans, "had been guided mainly by his own desires and his self esteem, long fed on boundless hopes, he had spurned the simpler fare offered by patient, scientific thought henceforth he must reconcile himself to the humbler position of the inhabitant of a speck of dust and adjust his views on the meaning of human life accordingly Some astronomers tell us that radiation of the sun and stars is produced by the formation of helium out of hydrogen and by the annihilation of atoms, that heat can only do work by becoming colder, and the energy of the universe is running down, and so vast are the cold regions of space that in the end energy will be dissipated into a universal increase of temperature negligible in amount The argument is then that the present matter of the universe cannot have existed for ever, an upper limit of its age has been assigned at some 200 million million years But, as J S Haldane points out, a greater and greater part of the energy of matter will not be dissipated as the temperature falls

It is conceivable that radiation of shorter wave-length and higher availability than any known in the present universe might have created such a universe by the running down of energy, and might have crystallized into electrons and protons and finally formed atoms Out of a chaos of radiation came the nebulae, and out of these the stars by condensation of whirling gaseous matter "If we want," says Jeans "a concrete picture of such a creation we may think of the finger of God agitating the ether," or be content to say creation is unknowable It is conceivable that there is an infinite supply of short wave length radiation in internebular space which is evolving into matter, that the finger of God continues, and will continue for ever, to agitate the ether Millikan and Lodge have suggested that scattered star radiation somewhere reconstitutes itself into matter If so, the evolution of the universe may be without beginning or end We are told that the planets were not, as Laplace conceived formed, with the sun, out of a whirling nebula, but out of a tidal stream of gas drawn out of the sun by the near approach of another star, a phenomenon so rare in the empty vastnesses of space that the earth, with the atomic structure and restricted conditions possible for life may be and perhaps is, unique

All matter is now conceived of as resolvable into atoms, each comparable to the sun with its planets, but so small that the size of an atom bears the same relation to a drop of water as the drop to the earth Atoms of all elements more complex than hydrogen are, it is thought, composed of a highly condensed nucleus positively charged consisting of hydrogen units or protons together with some negatively charged electrons, and containing nearly the whole mass, around this nucleus spin other negatively charged electrons in various fixed orbits Every atom can be activated by radiations coming from

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the sun and universe, but when not excited, each atom of the lighter elements common on earth sinks in tune to a state in which its electrons occupy orbits of lowest energy, one in each, and then continue in these orbits without dissipation of energy. It has been shown that the various wave-lengths of radiation are endowed with various quanta of energy. On collision with atoms the energy of any quantum which is in tune with an electron is given up to it and this electron is then emitted—the photo-electric effect. There is emission of electrons only when quanta of the right value are available. When electrons return to their orbits in the atoms radiation is emitted, and here again the emission is only by complete quanta. The pathways of alpha particles and electrons emitted by radium and the result on these pathways of a collision of an alpha particle with an atom have actually been photographed. By photographing the behaviour of a hydrogen atom or proton penetrating, or reflected by, a calcite crystal, Dempster has been able to show that it is in a state of continuous motion at tremendous speed. The theory of atomic structure is so far confirmed by observation.

Different methods of experimental observation have led to the conclusion that both matter and radiation exhibit, on the one hand, the properties of undulatory phenomena, and on the other, those of particles. Electrons are not merely point charges of electricity, but carry a train of waves with them and these allow them to spin in certain orbits of a simple numerical relation and in no other, only one electron can occupy each orbit, an electron can jump only from one of the possible orbits to another, to effect the jump, a certain quantum of energy is required, neither less nor more will suffice. When the train of waves is taken into account, the classical theory of dynamics gives the requisite distribution of orbits in the atom (J. J. Thomson). We have been told that it is probably as meaningless to discuss how much room an electron takes up as it is to discuss how much room a fear, an anxiety, or an uncertainty takes up, that the quantum theory succeeds in keeping the universe in existence as a going concern, but it is difficult to form even the remotest conception of the realities underlying all these phenomena.

The train of waves determines the pathway the electron travels and the form of the waves is determined by events happening at a distance and propagated through space in the form of waves.

However far from reality be such conceptions, we know that electrons are given off by the hot filament of the wireless valve, and that the forces in the oscillating circuit control their motion, that electrons are set free by light in photo-electric cells which make television and "the talkies" possible. They have become articles of commerce and the foundation of great industries.

We are told that when protons and electrons fall together and

radiation is produced in the stars by the annihilation of atoms, the energy produced is "so great that the annihilation of one drop of oil would suffice to drive the *Mauretania* across the Atlantic "

"The atoms in a room," says Eddington, "are rushing about in all directions with a speed of a fifth of a mile a second, if the temperature could be raised to $20,000,000^{\circ}\text{C}$ they would be going at 50 miles a second. In the very core of the sun and stars the temperature is twice as high, and the substance consists of stripped atoms or ions with vast quantities of free electrons. The electrons of atoms forced off by X-rays combine again, to be forced off once more, and so on. An X ray on forcing out an electron is absorbed, when the electron combines again the X ray comes out. Radiation of all wave lengths finally reaching the surface through the screen of atoms is emitted into space. It is conceived that the main mass of the central region of the stars consists of immensely heavy liquid supra-radio-active atoms with atomic numbers just above those of the known radio active elements.

"Primeval matter," says Jeans, "has gone on transforming into radiation for millions of millions of years until, by the rarest accident, gas consisting of the lighter and most inert atoms was torn out of the sun and condensed into a planet whereon the physical conditions became such as to make life possible. There is nothing to favour the view that life reached the earth from elsewhere, and we know nothing of the primeval physical conditions which led to its formation, but we do know that life is only possible in complexes of atoms which are relatively quiet and stable and shielded from excess of radiation, and that all life is kept going by the radiant energy of the sun, either directly received or absorbed in the food. Electrons are forced out of the atoms of living cells by light and ultra-violet rays, by X rays, and by gamma rays of radium which come out of the soil and which are now used in concentration to kill cancer cells. Unfortunate girls who painted clock dials with luminous paint containing a radium salt and sucked their brushes have died owing to the radium which, once absorbed, never left the body and ceaselessly continued to give off its destructive rays. X-rays can be used for sterilization and in smaller doses for producing mutations in germ cells. There are still shorter wave-lengths probably produced by cosmic annihilation of atoms, some of these have the power to penetrate through 16 feet of lead. Coming from inter-nebular space these cosmic rays knock electrons off millions of atoms in our bodies every second with what physiological result we do not know. They must help to create a fresh configuration of the living cells from instant to instant, and possibly are one cause of mutations which spring from germ cells.

Photo-electric effects produced by the action of ultra-violet rays

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on the most superficial living cells of the skin is the cause of sunburn. A substance called ergo sterol, existing in these cells in minute amount, when activated by the right wave length and intensity forms a vitamin necessary for growth and prevention of rickets. Exact measurement has shown that as little as eleven quanta of radiation of green light suffice to stimulate the retina and provoke vision. If this amount of energy were turned into heat and conserved without loss it would take some hundred million years to heat a gramme of water one degree centigrade. If telepathy were possible why should nature evolve an organ with such extreme sensitivity?

Life says J S Haldane depends upon the maintenance of a balance of molecular exchanges between the cells and their environment. If the balance is disturbed so that for instance too many or too few water molecules and potassium calcium, and sodium ions are passing from the blood to the tissues or *vice versa* life is imperilled. The case is exactly similar with oxygen molecules or with hydrogen and hydroxyl ions.

Between the cells and fluid medium of the body there goes on a ceaseless interchange of ions, that is of molecules in an active state through loss or gain of electrons. Potassium salts radio active and emitting electrons are present in living organisms. The healing power of certain natural mineral waters are now being ascribed to the active state of their constituents. Electrical currents due to movements of electrons accompany every form of vital activity such as conduction of nerve impulse, muscular contraction, and secretion. We all know the importance of the body temperature for maintaining active the processes of life. The brain cells soon cease to function when the molecular dance is lessened by cooling or increased too much by heating. Continued monotonous warmth produces sterilization in the male. In living processes, then, there is ceaseless play of radiation quanta or photons, electrons and molecules but this play must not be too violent.

The physicist tells us to multiply the diameter of an atom by two thirds of the way to the sun, it would then become about two miles. The protons would be almost invisible specks, the electrons the size of sixpences, and the whole nucleus the size of a cherry. The structure of a speck of dust sufficiently magnified might appear as the midnight sky, supposing the nuclei of the atoms and their planetary electrons were luminous. So open is the atomic structure that if all protons and electrons of the atoms in the body of a man could, with the wave of a magician's wand, be packed together, the man would shrink to a speck.

A microscope magnifying a thousand times reveals the organism of suppuration called staphylococcus as a mere dot. Such a microbe

contains millions of atoms, and each of these electrons with trains of waves and waves of what? we do not know. A non filterable virus is too small to be seen under the microscope, and yet we know that if we take one drop of blood from an animal infected with a virus disease and dilute this ten million times and then take one drop of this dilution and inject into another animal and so dilute it to a very high degree, this injection may cause the disease. It is worth noting that in the very best vacuum which can be made there are estimated still to be some million million molecules per cubic centimetre and that the purest water possible to distil fluoresces in the ultra violet rays and so shows impurity.

We know that all substances are resolvable into one or more of 92 elements and that these form a series of increasing complexity of atomic structure from hydrogen (one) to uranium (ninety-two). Two of the elements have disappeared from the earth. A few elements, such as silicon, aluminium, and oxygen form most of the earth. The atomic number of each element is given by the number of electrons spinning round the nucleus, the positive charge of the nucleus being of corresponding value. Bombardment of atoms by rays given off by radio active elements causes transmutation—but the dream of alchemists has not come true, there is no gold to be so made, the radio active elements themselves transmute, undergoing an evolution into other elements, in doing so radium emits 3.6 million million particles per sec. per gram. The physicist has succeeded in making this count. Each emission is spontaneous, cannot be predicted, nor any cause for it assigned, it can neither be stopped, nor controlled.

The difference of substances depends on arrangements of atoms, their grouping into molecules and these again into complex particles such as form crystals and colloids. The ceaseless play of radiation keeps up a never ending dance of all atoms, not only in each living cell but in every particle of dust. The smallest particles under the microscope ceaselessly dance in the fluid medium, the molecules of a gas ceaselessly bombard the vessel containing them. A speck of dust or a drop of water is then to the seer neither less nor more marvellous and mysterious than the blue sky and sailing clouds, the flower, the nightingale and its song.

We know that the chemical elements are genetically related and fall into families, isotopes of the elements have been discovered which are comparable with individuals of a species. A pair of electrons together form something different from two electrons separately on division something would be lost which could only belong to the whole (Eddington). Atoms repair themselves no less than organisms. An atom of copper which has lost an electron is no longer copper, it must be replaced. Loss and replacement ceaselessly go on

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both in living and dead substances. If the organisms of a species show individualism, so do atoms, for chemical and physical constants are merely statistical averages of an infinite number of individuals summarizing a variable population. Atoms, no less than organisms, may retain their identity in spite of ceaseless change. If a central control is ascribed to organisms, it cannot be denied to atoms.

"Scientific determinancy," says Eddington, "has broken down, and that in the very citadel of its power—the inner structure of the atom. Matter has lost its fixed, rigid and formal character." "Modern physical investigation," says J. S. Haldane, "of the atom and molecules seemed to be endowing them with something very like an individual life." "The similarities in behaviour," says Boycott, "between a hydrogen atom, an amoeba, and a cat are, perhaps, really more significant than the differences." Smuts' holistic conception of life as a unity, which maintains and asserts itself, no less applies to the atom.

It has been asserted by a vitalist that crystals of a substance of the same size resemble each other completely, and grow by additions without change of chemical nature or release of energy, and that a drop of water is the same as any other drop, while individual organization and purpose are characteristic of organisms. But each atom is a complex, active, unknowable in ultimate nature as is a living cell. Each instant activity of either atom or cell is creative, the identity swings about a mean and is never the same for two moments. H. W. Carr says "a material thing has no evolution, and Science not only cannot discover, but cannot even represent the origin of life," to which Science answers that the whole universe is in evolution, and that it cannot discover or even represent the origin of matter. Carr says "there is present in the living thing an active principle organizing it to carry out a set of self interested purposive actions." Science answers, "Can we deny self interested purposive action to the spontaneous emission of alpha particles of radium and the play of quanta and electrons?" We do not know.

It must be borne in mind that individualism is not a general characteristic of organisms, for just as electrons form atoms and atoms form molecules—and these crystals or other complexes—so there are innumerable species of lower animals which at times coalesce and break again into several or form colonies. There are the slime fungi exhibiting an astonishing rhythmic flow in canalized sheets of protoplasm, worms which segment into chains of worms, the last link separating as the newest one forms. Plants can be propagated by cuttings and by pieces of root, or grafted together. Two-headed babies, Siamese twins, and other monsters are born, and can easily be made by grafting embryos together, what about their personalities?

The discovery of X rays has meant to physicists what the discovery of the microscope meant to biologists, geologists, and chemists, for the use of these short wave-lengths has increased the range of observation ten thousandfold. The molecule, large relative to the wave-length, has its characteristic shape imprinted by scattered rays on a sensitive plate. From this imprint a picture of the molecule can be constructed by measurements and calculation.

The crystal "we are told, "shows all the exhilarating unexpectedness of an organism, subject as it is to principles of periodicity, attraction repulsion growth, and structurally disciplined function." There is a persistent tendency of nature to arrange her molecules in ordered fashion. This obtains not only in bodies, hitherto called crystals but also in cellulose, wool, hair, silk, nerve, and muscle.

While the doctrine of spontaneous generation finds no support, there are not only viruses which produce diseases, but bacteriophages which destroy bacteria too small to be seen under the microscope and question has arisen as to whether these really are living organisms or more of the nature of vitamins which promote growth, but having the opposite action. Then, again, it is generally agreed that inherited qualities are transmitted by the chromosomes of the nuclei of the germ cells, and that the chromosomes are made up of units called genes small molecular complexes, each of which divides into two when the chromosomes divide, a half going to each daughter cell. It is suggested that viruses and bacteriophages may be of the nature of genes, and these be the most primitive form of life. It is worth noting here that the study of specific immune reactions shows us that the spatial arrangement of the groups in the reactive part of the protein molecule may determine the specificity of the entire complex many hundred times its own size.

Let us look back to the simplest units of life evolved in sea water under conditions of the world which no longer pertain. We can conceive of this life substance persisting and spreading through hundreds of millions of years, guided by the environment into myriads of structural adaptations which persist so far as they help in the persistence of life. The cells of our body form a part of that continuum of living cells which in the past gave origin to the laying down of vast limestone and coal strata and now forms the lovely child, the robin redbreast the ravening shark, the poisonous viper, the lily of the fields, the horrid parasite, and the microbe of pestilence. The adaptability of the living cell is shown by the existence of salt and fresh water and of aerobic and anaerobic organisms, of fish in the vast depths of the sea which withstand a pressure of hundreds of atmospheres of water and secrete oxygen in their swim bladders at a pressure which kills all surface organisms. The history

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of evolution and the relation of man to the primates are shown in the stages of development of the human embryo

Few realize that the subconscious life of the cells of our bodies exceeds the conscious by some million million times or more, for the unconscious living cells of the body are myriad in number. In every tiny droplet of blood there are some five million red cells. Think of the myriads in the organs such as the liver, kidneys, etc., of the myriads living in the skin and alimentary canal, and forming the muscles. In the brain the seat of consciousness, there are some nine thousand million neurons. Think again of the millions of atoms in each cell and the electrons and train of waves in each atom. A single living cell is as complex as a large organism for these are made up of multitudes of cells arranged in organs, in each cell of which the life processes while conforming with those of the single-cell organism, specialize in other functions for the good of the whole. And the cells of our body die in myriads and are replaced by others in the course of life. Immunological reactions enable us to detect blood relatives from the rest of a species so that an individual difference stamps all the cells of the body of each of us. Cell subconsciously influences cell by chemical messengers, so that all are kept developed and balanced and serve the common end. I can pause only to give two striking examples of the cause of cell to cell which determines effect. First, an optic vesicle, when transferred from the head to beneath the back of an embryo tadpole, causes a lens to develop in the skin there. Secondly, a growing tip, brought close to the stump of a rootlet which is placed horizontally, causes the rootlet to grow downwards.

In forming a philosophic view of life, it is noteworthy that cells can be cultivated outside the body and, suitably fed, continue to multiply as if immortal, further, that ova can be fertilized artificially by changing the salt-content of the medium, or by the prick of a needle. A feminist writer has even looked forward to attainment of immaculate conception and the expulsion of men as useless drones.

We must take into account so curious a fact as that the female mantis bites off the head of the inattentive male before fertilization takes place. The reflex, undisturbed by the higher senses of the male, then results. There is the habit also of the female scorpion eating the male after fertilization has taken place, and of the male living as a small parasite in the female of certain deep sea fish.

While the myriad cells of the body by chemical messengers through the medium of the blood help to preserve the life of all, the evolution of a central nervous system made possible quick responses to the environment for maintaining posture, securing food, escaping injury, and promoting sexual propagation, but let us take note that

the first fundamental phenomena of sensation, response, and memory are observable in a unicellular animal such as an amoeba or paramoecium. Such take in useless granules at first but soon come to reject them. It is very noteworthy that in the evolution of the brain of species of fish one or other part develops in size in accordance with the sense used by that species for securing food.

While a dinosaur, big as three elephants, feeding on swamp vegetation had a brain the size of one's thumb in the number of neurons and complexity of pathways the nervous system of man, who has to live by skill, far exceeds that of the stations and wires of the whole telephonic and telegraphic systems of the world.

The amplifying valve has enabled Adrian to record the electrical variation which accompanies a nerve impulse coming from a single sensory nerve ending. He has shown that greater intensity is conveyed by greater frequency. So, too, with the muscles, while the number of fibres involved is the coarse adjustment the frequency of excitation is the fine. While the nerves merely conduct more or less frequent impulses it is in the relay cells of the brain that integration takes place, the summation of excitation and inhibition, and the storing of memories and consciousness, these cells are most sensitive to fatigue, blood supply, drugs, etc., and while disease of them leads to dementia, their non-development results in amentia.

The researches of Sherrington and Magnus have very greatly advanced our understanding of the reflex working of the central nervous system. We know that bodily actions are co-ordinated and effected without consciousness. While consciousness acts as accelerator and brake the bodily engines carry out actions controlled in the central nervous system by a ceaseless stream of afferent impulses from muscles, tendons, joints, otolith organs, etc., of which we have knowledge only by laborious research, unconscious impulses which excite these and those muscles, and inhibit these and those others.

Particular attention must be given to the recent epoch making researches of Pavlov on conditioned reflexes. He has devised experimental methods of studying behaviour and shown how conditions of neurosis may be set up. Thus the conditioned reflex was established between the sight of an oval and food and of a circle with no food. Then the oval was made more and more like a circle, and in the end the dog became nervously disturbed and took long to recover. An insoluble difficulty on solution of which food depended, upset its stability. So too with us. Every action of a civilized man is guided by an endless chain of previous conditioned reflexes established by up-bringing and education. How much lower is the level of the stone age man is shown by Darwin's description of the Fuegians. Stunted, naked, filthy, and greasy, with long streaming and entangled hair,

their voices discordant and their gestures violent, with no religion, government, or chief, but tribe fighting with tribe for the wretched means of subsistence. Sleeping like hares in forms in the inclement climate, living on shell fish and putrid bodies of whales and seals, each, if attacked instead of retreating endeavouring to dash out your brains with a stone as certainly as a tiger would tear you, their skill comparable with instinct of animals, not improving with experience. When one was given a piece of cloth it was torn into shreds and distributed, when a pistol shot was fired close by, one merely looked astonished and rubbed his head, the sensation being no more relevant than a motor car is to a lion in the bush. And yet if that infant at the breast, which the father snatched away and dashed on to the rocks because the mother dropped a basket of eggs, had been rescued and educated it would have become a useful civilized man. We must remember says Wood Jones 'that awareness results only when a stimulus is relevant. Thus the blind-worm is aware of drops of rain and of the movements of the brown slug, its food. The blast of a motor horn or a symphony concert provokes no response in it.

We must bear in mind, too, the profound alteration of personality as the fertilized ovum develops to the new-born infant, and thus to the child, the adult, the aged. What alteration, too is made by drugs, alcohol, insufficient oxygen, excessive fatigue, illness, and injury to the brain. The dancing dervish gains his vision through fatigue or by *hasheesh*, similarly the Buddhist or Christian who keeps vigils and fasts, by brain-cell exhaustion is the so-called freedom from domination of the external world obtained. The symptoms in order are—impairment of finer motor adjustments, e.g. seeing double and disorder of speech, impairment of attention, loss of inhibition, increased emotion, loosening of social habits, hallucination, and delirium.

'I have had,' says Gissing 'one of my savage headaches . . . memory, reason, every faculty of my intellectual part is being whelmed in muddy oblivion. Is the soul something other than the mind? If so, I have lost all consciousness of its existence. . . my being is here, where the brain throbs and anguishes. A little more of such suffering and I were myself no longer, the body representing me would gesticulate and rave, but I should know nothing of its motives, its fantasies. The very I, it is too plain, consist but with a certain balance of my physical elements which we call health.'

Without the internal secretion of the thyroid gland a child is a cretinous idiot. Feeding with thyroid makes it into a normal being. Too much pituitary gland makes a child grow up a stupid giant. Tumour of the supra renal gland causes sexual precocity, producing in a young child the maturity and appetite of a man.

By the removal of sex glands and transplanting of opposite ones sex characters are changed

A decerebrate animal is an unconscious reflex automaton. It stands statueque, tilt the head up, and it sits and looks up; tilt the head down, and it assumes the posture of feeding from a dish.

Take the case of the baby boy who stirred and cried only when hungry, thirsty, or soiled, whose eyes appeared turned up whenever the lids were opened, who never smiled or made any response to his mother's voice. He lived for 3½ years, breathed, swallowed, digested, excreted, kept warm, his brain was found to be a mere bag of fluid. Who can justly doubt, then, that personality is bound up with the cortex cerebri?

Take again the case of a man with superficial injury to the left parietal region in the vicinity of the supra-marginal gyrus. The wounded man had no difficulty in expressing by words his ordinary deeds, but often appeared to have lost the connection between what he had said and what he wished to say. He read aloud correctly and understood the significance of words and short sentences, if they did not contain a command. He wrote very rapidly as if he feared to lose the idea. He counted and named coins, but could not solve the simplest problem in arithmetic, and he had been an accountant. Unable to draw or to sum in any manner the relative position of objects in a familiar room, he yet could point to any object in the room with his eyes closed. He could not find his way about or play games, as he could not foresee the consequence of his next act.

Evidence shows that the brain acts as a whole, but that certain regions are associated with entry of one or other sensory pathway. Hence the localization of effects of injury.

Dr. William Brown recently told us that "mind is an active, dynamic synthesizing force, creative, carrying on activities which even the greatest conceivable extension of our physiological knowledge would not enable us to infer from observing the brain," to which modern science answers that the activities of mind are neither more nor less unexplainable than those of matter. 'The packing of all the potential properties of a species in one tiny reproductive cell, the gradual transformation of one species into others much more complex and having consciousness and memory,' these mysteries of life are neither greater nor less than those of radiation quanta and electrons. The finger of God in stirring the ether, endowed matter also with the potentiality of evolving mind through a particular play of environment.

'When I use my pen,' says J. S. Haldane, 'the light in which I see it is not merely that of an electric lamp, but of all my other experience. When I write with the pen the movements of my muscles are determined by the actual presence to me of innumerable past, present, and anticipated future events in both my own individual

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history and that of mankind. The past events are not simply past and done with, like events interpreted physically or biologically, but they, and not their mere effects, are still present and active . . . I am living and acting in a spiritual world for which separation, not merely in space, but also in time, has none of the meaning which it possesses for the world interpreted physically or biologically. Along the years and across the oceans action and reaction are direct in this spiritual world. It is evident that in conscious activity we are face to face with facts that neither physical nor biological hypotheses are capable of interpreting. Yet conscious activity manifests itself in connection with the same beings that seem also to live and breathe as mere organisms, or to consist of nitrogen, hydrogen, oxygen, carbon, and other atoms leading a wild and undefinable dance."

By those words of Haldane, "actual presence to me," the conscious guidance of the pen by all that innumerable past seems clearly suggested. I venture to suggest, firstly, that the movements of the pen are determined by a pattern laid down in the brain with its ten thousand million neurons and infinite myriads of atoms and electrons and their train of waves a pattern laid down by past experience and education acted on by present sensations. It is only little by little that a book is written, through consultation of authorities, copying, altering, and adding a little to the work of and picking up hints from others, thinking out one point after another over weeks of time, writing of rough drafts and gradually improving these, and so on. Secondly, I suggest there is evidence that along the years and across the oceans action and reaction ceaselessly continue in matter no less than in living organisms, further, that the past is not done with in events interpreted physically and biologically, that there is no wild dance in matter, and that consciousness is neither greater nor less than matter and energy, the ultimate nature of which physical and biological hypotheses are not capable of interpreting. "The universe," says Haldane, "is a spiritual world and not a dualistic universe of matter and mind." Yes, in so far as "the stirring of the ether by the finger of God" results, among all other phenomena, in consciousness which is determined, like all other phenomena of living or non-living organisms, by an evolutionary reaction to the environment. The effect of the environment is conditioned by the inherited quality of the organism, and the reaction of the organism is conditioned by the environment. Thus personality is socially formed by inhibitions and reinforcements, habits, and consistency of conduct result. Actions are determined by all previous experience, upbringing and education are paramount in patterning the brain and so bringing about the formation of right or wrong moral and intellectual habits in each person born with certain inherited qualities.

We are told that energy can exist in a number of forms and can

change endlessly from one form to another, but cannot be destroyed, or created. That all existing energy must have existed from all time, although possibly in some form entirely different from its present form. That all the life of the universe may be regarded as manifestations of energy.

Energy has then attributes ascribed to God, unknowable, eternal in all and through all, and modern science has reached a conclusion compatible with Deism. In every atom, just as in every complex of atoms forming a living cell, there may be the purpose of God, every atom may be dynamic, not only moulded by the environment, but determining it.

Hume says: "I ascribe to matter that intelligible quality, call it necessity or not, which the most rigorous orthodoxy does or must allow to the will."

Of one thing there is certainty, viz. that scientific knowledge can extend life and happiness by education and prevention of disease, by recognizing and avoiding adverse forces of nature, by inventions for securing means of subsistence, utilizing and conserving sources of energy and controlling the birth-rate and so putting an end to war. Science relieves us of superstition and fear of punishment after death, and leads us to devote ourselves to the improvement of conditions on earth.

We have to reckon with inevitable natural forces. A meteor, such as the one that struck a hole almost a mile wide in a desert of Arizona, may destroy the city of London in the twinkling of an eye, volcanoes and earthquakes destroy cities, and tornadoes and floods and pestilences work destruction on good and evil alike, some criminals succeed and good people suffer, monsters and idiots are born, men have tortured, burnt, and waged war in the name of religion.

Nature creates and destroys, indifferent to our prayers. Inscrutable, omnipotent, endowing us with joy in sky and sea, trees and flowers, the fruits of the earth, running waters, song of birds, the play of animals and children, the love of a mother for her child, and kindly acts.

"We are not living in the world to discover final truth," says Lord Haldane, "there is no such truth. What we find is always developing itself and assuming fuller forms. Of knowledge we can at best master only a fragment. But if that fragment has been reached by endeavour that is sufficiently passionate, the struggle towards it yields a sense of quality of quality in the very effort made, which stands for us as being what we care for beyond everything else, as being for us truth, whatever else may not be certainly truth. And so life is not lived in vain, though in the ends attained it may seem to have failed."

FROM MAGIC TO SCIENCE

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THE tomb of the ancient Pharaoh, Tut-ankh Amen, was opened some years ago. Lord Carnarvon, who financed the investigations, died shortly after the opening. Lord Westbury fell to his death from the high window of a London flat on February 21, 1930. His son, the Hon. Richard Bethell, had been found dead in his room the previous November. He was secretary to Mr. Howard Carter, one discoverer of Tut-ankh-Amen's tomb. Many persons who had been connected with the excavations had died previously—M. Benedite, for example, died after participating in the research and Mrs. Greely committed suicide after visiting the tomb. The Hon. Richard Bethell was the thirteenth person connected with Tut-ankh-Amen's tomb, directly or indirectly, to die, and his father, Lord Westbury, was the fourteenth. The death of Lord Carnarvon, a few weeks after the tomb was opened, stirred the notion that a curse had been placed on the mummy of the Pharaoh, or in his tomb, to menace violators. Succeeding deaths kept the notion alive, and the thirteenth death, of the Hon. Richard Bethell, wrung an opinion from Dr. Mardus, the eminent French Egyptologist. He was convinced that the ancient Egyptians could surround "their mummies with some dynamic force." Such a force lurked in the tomb of Tut-ankh-Amen. Its nature was unknown, but it had manifested itself in the series of deaths.

Aristotle remarked long ago, in his *Rhetoric*, that history tends to repeat itself. The power lodged in the curse, or dynamic in the incantation, is a typical *magical* force, and the old belief in magical forces has revived in the opinion of Dr. Mardus. This belief presents itself among twentieth century estimates of causes like a crow among pigeons. It is as alien to our modern scientific versions as these may have been alien to the thought of Tut-ankh-Amen. The contrast excites to an attempt at analysis. The attempt must be cautious and undogmatic, for it is easier to perceive that magical conceptions do differ from scientific ideas than to understand the difference. The attempt at analysis need not be hampered by a direct endeavour to decide whether fourteen deaths intimate an ancient imposition of a still effective curse. There is a magical way of thinking, there is also a contrasted scientific way, and there must be a discoverable difference between them. The disclosure of the difference may confirm the modern reluctance to credit the

perpetual lurk of potent curses in tombs or approve the revival of magical forces by Dr Mardus or it may neither confirm nor approve. The disclosure may be successfully effected or it may be very doubtfully made. The latter alternative may be feared if Dr Singer is compelled to leave magic undefined and to regard it provisionally as primitive unorganized belief in relations between causes and effects. Magic has eluded analysis too often for hopes to run too high over another attempt. Any suggested disclosure may also be doubtful if various students have drawn different inferences and they have. Difficulties however though they should breed circumspection should not daunt. The intrusion of the magically conceived curse into a modern scientific atmosphere is a challenge and that challenge is most appropriately met by a series of explorative steps. The first step if it can be taken discusses the distinction between magical forces represented by the presumed curse in Tut ankh Amens tomb and scientifically conceived causes represented by civilized reluctance towards revivals of the magical past.

We obviously do contrast magical and irrational beliefs or practices with those that seem to us to be scientific and rational. The Ojebway Indian who runs a needle into the wooden image of his enemy to pain him or burns the puppet to kill him seems to us to act magically and irrationally because there appears to be no rational connection between maltreating an effigy and wounding its original. If he helps his little drama along by magic words there still seems to us to be no rational procedure. If he lurks in the bush to draw bow upon his victim he still seems to us to act spitefully but he now seems to act rationally for a sped arrow can kill. The obvious distinction between the irrational handling of the puppet and the rational use of the bow is not always so sharply present nor is it even when it is sharp easy or even possible to define. Goldsmith said of Burke that he wound into his subject like a serpent. Burke wound *onto* his goal but attempts to distinguish between irrational magic and rational science are liable to be more sinuous than successful. The discovery of a waxen image of Queen Elizabeth in Lincoln's Inn Fields in 1577 violently perturbed the English Court. The pierce of the pins that had been driven into the breast of the effigy seemed to be a danger to the august original and Dr Dee the famous astrologer and alchemist was hastily summoned to protect the Queen. This indurated method of wounding a person by maltreating an effigy seems to us to be obviously magical hopelessly irrational and manifestly futile. Many persons the French chemist Nicolas Lemery remarked in the later seventeenth century hung coral round their necks to prevent bleeding to purify their blood and to fortify their hearts. This seems to us as irrational and as manifestly magical as the traditional bestowal of strength by the sapphire or of eloquence

by the emerald, upon the wearer The Hon Robert Boyle, in the same century as Lémery, suspected medicinal powers in gems He disarmed our suspicions of his irrationality, or at least weakened them, by surmising that genuinely medicinal gems might scatter swift potent corpuscles into the bodies of their wearers Thus rationalizing of magical beliefs often makes us hesitate between ascriptions of rational mistakes and accusations of irrational errors The reputed powers of the planets, as well as of gems, were often rationalized in the seventeenth century by equipping the celestial bodies with corpuscular rains It seemed to Boyle that planets *might* affect terrestrial events by dashing such corpuscular streams upon the earth Such rationalized magic that conforms apparently irrational beliefs to apparently rational conceptions is midway between the handling of effigies to discomfit their prototypes or the belief in stytic coral and discarded scientific theories Obviously magical beliefs seem to us to be both false and futile discredited eighteenth-century science such as the old phlogistic chemistry, seems to us to be false, but it does not seem to be hopelessly irrational There is no sharp line between rational belief, true or false, and irrational magic, but we can recognize, on occasion, that we do draw the distinction

Socrates proposed to cure the headache of Charmides by a leaf and a charm The leaf and the charm—Socrates was playful here, but he mentioned the drug and the spell again in the *Republic* The drug can stand for rational procedure, the charm or spell can stand for magical efficacy The contrast is only complete if the drug is a genuine medicament The leaf or drug was not always rational pharmacy in early days, nor is it always now The Athenian Stranger in Plato's *Laws* contrasted poisons that injure by "a natural law" with those that injure by sorceries, incantations, and magic bonds The poison or the healing drug only represents rational procedure when it is a genuine medicament that operates by "a natural law" If the "leaf" playfully suggested to Charmides was thus conceived, then Socrates included a *double cause* in his recipe, for Charmides was asked to be both rationally physicked and magically charmed This doubling of rational procedure and dependence on magical efficacy is one striking characteristic of the magical phase of thought

An Indian will shoot a poisoned arrow into the trail of a deer The animal is hunted on the next day, and, if fortune favours the chase, killed by natural means The magical supplement of striking at the deer by piercing its trail is the analogue of the charm in the double method of spell and drug The rational procedure of the hunt is the analogue of the medicament that acts by "a natural law" The charmed net or the charmed spear is a typical instance of doubling the cause by supplementing rational procedure with magical efficacy.

New Guinea fishermen will not sail until their nets have been charmed. The indispensable charm is not sufficient, for the nets are meshed suitably placed appropriately, and disposed properly. The construction and manipulation of the nets, which seem to us to be rational and sufficient, are supplemented by magical charms, which seem to us to be irrational and superfluous. The charmed spear presents the same combination of rational sufficiency and irrational superfluity. A savage will make a spear, sharpen its point, aim it well, throw it hard, and perhaps smear it with poison. He will also croon a charm over it, or persuade a magician to throw a powerful spell upon it. The charmed spear, pointed to pierce and charmed to kill, is a typical combination of rational procedure and magical efficacy. The savage points his spear, sharpens it, aims it truly, and throws it hard, but the potent charm or spell makes it kill. Carveth Read has parodied a famous saying to express this double reliance on natural causes and magical powers: the savage "trusts in magic, and keeps his bowstring dry."

The reliance on the double cause, on magically supplemented natural agencies, effectively contrasts the scientific or rational with the magical or irrational. The rational side of the charmed spear leans on the determinate sequence of events, the magical side leans on coercive power. The magical force, in principle, though it is usually qualified by some recognition of nature's ordained routines, can make things happen anyhow, anywhere, and at any time. The companions of Odysseus bristled into swine under the coercive power of Circe. The pumpkin was not qualified to become a coach, but it became one under the constraining wand of Cinderella's Fairy Godmother. The sheer coercive power of the magical efficacy, the making things happen by magical forces, is visible in taboos. It is visible in the deadly blanket of the New Zealand Chief that is taboo to others, and kills the imprudent wearer because it has been in contact with its lord. The taboo on the tinder box, or other personal belonging of the Maori Chief, kills those who touch it. The sheer coercive power of the magical efficacy, that simply makes things happen, is constantly intermingled with recognitions of natural sequences, as the charmed spear must also have a point. The charmed spear combines the clearly separated natural causes and magical efficacies. The emphasis of rational procedure, that corresponds to science, falls upon determinate sequences of events, the emphasis of magic falls upon coercive powers.

The sheer coerciveness of the magical efficacy contrasts with the dependence on natural causes in rational procedure. The original nature of the magical force is often concealed in the magical rite or belief, but it is clearly visible in the death-dealing taboo, and it is displayed in the doubled cause of the charmed spear. On its rational

side the spear kills because it can pierce and does, on its magical side the charm makes it kill Experience is the obvious source of the rational procedure, for nature insists on the sequence of thrown spear and achieved kill the spearman knows by experience that there is no kill without a pierce, and no pierce without a point The source of the notion of magical efficacy is less immediately obvious, but a source there must be, and it seems to be discoverable

Paley, in his famous argument pointed to the exquisite construction of a watch A watch is skilfully constructed to keep its hands in step with the sun If a wayfarer, Paley argued, found such a watch upon the heath, and observed this skilled construction in it, he would conclude that someone had made it The world, Paley argued again, because it was contrived as the watch is contrived, had a maker also, as the watch has Paley was arguing from analogy if the world resembled the watch in being contrived, it would also resemble it in having a maker Paley took the watch for a model, and argued from it to the world The ancient Atomists took pointed things, like thorns or burs, for models, and argued from them to the atoms since tartar tasted sharp, it contained pointed atoms that pricked the tongue This method of analogy, this consultation of models, is the staff of the mind It was deliberate with Paley, and explicit with the Atomists but the mind is constantly appealing to a model without realizing its analogical habit Deceptive analogies constantly seduce the unwary mind, though genuine analogies, especially if they are vigilantly employed, also illumine thought The appeal to the model, overt or unrealized, misleading or illuminative, is the constant habit of the human mind

Wouwerman always painted a white horse into his picture According to Joyce, the pattern of the plump maize-cob, nature's own mosaic, can be constantly detected in Mexican incrustated work Men have their pet models, and their thinking, like their pictures or their patterns, is liable to be dominated by them The physiologist Camper humorously confessed that after he had studied the heads of *cetacea* for six months everybody appeared to him to be "narwhal, porpoise, or marsoins" Plain women, and even pretty ones, were "narwhals or porpoises" in his eyes One great pet model has constantly dominated human thinking, for analogy, like charity, begins at home, and one great dominating pet model is the thinker's self, or his social group

He who first puts to sea in a tempest, said Donne in one of his sermons, might well think that the sea is always rough Men are so familiar from the first with their own personal actions in making things happen, or with things happening through the actions of their fellows, that they incline to presume a personal agency, similar to human agency, in everything This inclination is too distinctly

written on the history of human thought to be mistaken. Homer, as Zeller notes, was content with the "personal authors and divine powers that obscure 'the natural causes of things' during 'the childhood of mankind'." The Anglo-Saxons felt sharp pains, such as the twinge of rheumatism as human beings have always felt them. The archer and his arrow that inflicted a sharp pain, was one inevitable model of the disease. A mischievous elf had shot an invisible shaft into the suffering patient. These are two items in an inventory that would stretch out until the crack of doom. Even very primitive people may not be indiscriminately animistic nor anthropomorphic but the human tendency to model all agency on personal powers is too frequently manifested, too widespread in result and too explicit in expression, to be mistaken.

Personal efficacies seem to be the source of reputed magical forces. The skill of the hunter seems to be a power within him. According to Durkheim the suasion of the group provoked a sense in men of besetting force. Men doubtless did sense a coercive power in the grip of social tradition, public sentiment or custom, and group control. They doubtless did sense it in the solitude when there was no present hand to seize them as the hunter's skill seemed to be a power behind, or above, the spear in his hand or the arrows in his belt. This sense of group grip doubtless strengthened the sense of personal efficacies, as Hartland has admitted and may have been one primary source of the great dominating sense of personal powers, but men sensed efficacies in their fellows and in themselves very variously. The humblest member of a group felt that he could make things happen; he sensed an efficacy in himself. The victim of blows and stripes and physical compulsions realized powers in his disciplinors. The wisdom of the wise, the persuasive eloquence of the orator, and perhaps the charm of the women, appealed as powers, just as the strength of the wrestler or the swiftness of the runner appealed. Psychical contact could impress this sense of personal efficacies as effectively as physical violence or hold, and perhaps more effectively. In the quail before the fiercely uttered curse, as one man sensed the animus of another, may perhaps be seen one source of one central conviction in magic: the conviction that the curse was very like a bullet.

Personal efficacies physically and psychically sensed in the powers of others or in self-efficacies were things in the days when magic prevailed. Herman Melville describes in *Moby Dick* how a harpoon flung at a whale in Java seas pierced the animal near the tail. When the whale was slain after many years off the Cape of Blanco, that harpoon, travelling like a needle through the body of a man, had moved forty feet to reach the hump. An "evil magic" can still travel in an Australian native like that harpoon in the luckless whale. If

a man has a headache," Baldwin Spenceer tells us, "it is an evil magic that has got inside him, and he will wear, in some tribes, his wife's head rings, so that the magic may pass into them, and be thrown away with them into the bush." Primitive man thought of the magic entering into him as he probably thought of heat entering into glowing iron, or as Melville thought of the harpoon in the whale.

We ourselves, as Reid once remarked, "speak of pain coming and going and removing from one place to another," and this was once more literal than it is now. Wishes and ideas masqueraded as *things*, even as travelling and projectile things, very freely in the early world. The tired savage, as Sir James Frazer explains, will still rub a stone on his body to receive his weariness, and throw his fatigue away in the stone. The scape goat principle of sending sins away on bearers, like wood on hurling's backs, was constantly applied in primitive days, as is fully recorded in Frazer's ample pages. In many magical practices a victim could be as literally handled by his name as he could be swung over a cliff by his arm. To be numbered has often been to be endangered, for numbers were as genuinely handles as names or arms or knobs. When pains and sins and names and numbers were things that could travel or fix in men human efficacies were like unto them.

They had also the dynamism of the force as well as the thinghood of the spear. Physical forces had all the gusto of things when Boseovitch in the eighteenth century and Faraday in the nineteenth resolved atoms into them. Human efficacies had all that gusto, too, when human minds first felt the dynamism around them. Human desires and strivings and purposes were sensed as efficacies and appreciated as thing like forces. The profound Egyptian belief in the powers of words, that Budge has noted, embodied this sense of dynamic human efficacies. The central magical fact has often been discerned in the spell or incantation. The charm pours an efficacy into the net or onto the spear, an efficacy that is conceived with all the dynamism of a force and all the thinghood of a sluice. The central magical fact is the dispersal, the travels, the fixings, the appropriations, and the workings of powerful forces. Countless rites, practices and beliefs have diversified this central principle, and have often almost buried it. These forces often suggest their derivation from human efficacies and seem always to have had this ultimate derivation. The human being himself, his social group, his fellows or alien groups, were the first great models of dynamism. Animism presumed personal agents that repeated the models, magical forces were the personal efficacies consolidated into dynamic things. The human person was the first pet model of the human mind for conceiving agencies. Animism or anthropomorphism modelled the agents on the complete person, the efficacies within the man became

pervasive magical forces. The primitive Idea of the Soul presumed a dynamic man within the immediately visible person. The interior soul was typically an inner dynamic repetition of the outer human being, though it might be etherealized or attenuated, or dwarfed, and though it was, on many occasions, conceived in some animal form. Such souls, either on temporary travels or permanently exiled from their bodies, peopled the world with spirits. Human efficacies, analogously dispersed, stocked the world with magical forces.

The Ila-speaking Peoples of Northern Rhodesia believe in vaguely defined forces that are pervasive and dangerous, though "the secret of manipulation" can harness them. Some people become taboo because they have been in contact with these dangerous forces. The Seton Sioux believe in a creative power, and in the sun as its most important manifestation. Among the North American Indians there is a widely dispersed belief in an impersonal reservoir of power. The Hurons call this power *Orenda*, other tribes call it *Manitou* or *Wakonda*, or by other names. The Egyptian "bihe, the nearest English equivalent of which is *magical power*," seems to resemble *Orenda* or its congeners in being a generalization of efficacies into a singly conceived force. The *Bafiole* of the Bantus seems to be an analogous African gathering of efficacies under one principle. Various activated items may derive either from the plurally conceived forces or from the singly conceived power. Fetishes instrumentally embody forces derived from *Bafiole*. Differences of power are associated with varying proportions of *Orenda*. If the individual and collective totems of the Omaha tribe are particular forms of *Wakan*, as Durkheim says, a plurality of efficacies has apparently been unified into a single manifesting power. The Ila-speaking Peoples are content with a plurality of forces, *Orenda* and its congeners, with the same monocentric insistence that identifies many causes of decay with one "tooth of time," gather many efficacies into one.

The Melanesian *Mana*, described many years ago by Codrington, introduced these generalized concepts of pervading forces to anthropologists, and will probably remain the classical example. *Mana*, as Codrington described it, has the characteristics of the magical power. It is pre-eminently a force, it is also like material, for it "can be conveyed in almost anything." It is pervasive, for 'it is present in the atmosphere of life.' It is "not fixed in anything," but it does attach 'itself to persons and to things.' Thus attaching displays the essential magical procedure of appropriating powers, for *Mana* operates when attached and manifests in its results. *Mana*, according to Codrington, is the agent in "everything which is beyond the ordinary power of man" or in events "outside the common processes of nature" "wizards, doctors, weather-mongers,"

prophets, diviners, dreamers. work by this power" Thus *Mana*, the gathered unity of magical forces, expresses, in its comprehensive powers, the wide range of magical efficacy. Magical forces tend to be confined in actual operation to more exceptional achievements, as *Mai* suggests, but the universal New Guinea charming of nets, or Australian ceremonies to promote animal multiplication, and other practices also tend to bring the magical power into the whole circuit of human life or even of nature.

Mana indexes its origin by its uniform connection with directive persons such as men or spirits. The Bantu *Bafite* is explicit indeed on the germ of these magical forces in personal efficacies if, as Hartland remarked, it represents the remaining vital energy of an ancient ruler *Oreida*, which, according to Hartland, clings about persons and things, perhaps disguises its ultimate origin more. Concepts that grow out of the sense of human efficacies may grow misleadingly away from their origins. The oak would seem very remote from its real source to one who had never seen an acorn, and the real origin of *Mana* concepts might be very obscure if we could not perceive the pet model of the human mind. Lovejoy has argued that *Mana* emphasizes the supernormal more than the efficacious, and such impersonal powers do seem to present themselves too much as extra-potencies to be genuinely derived from human efficacies themselves. It seems curious that a wizard who is assisted into wizardship by *Mana* should be helped by a brother of his own efficacy. A note by Sainte Beuve on David's method with Napoleon is here a useful hint. Napoleon actually rode the most difficult passes on a mule, but David made him scale the Great Saint Bernard on a fiery steed. *Manas*, and magical forces, are a heightened sense of human efficacies. Such heightening is too familiar to be refused here, for idealizations, such as the vast strength of Herakles, that operate everywhere, would operate here. Primitive men did not deliberately single out human efficacies to heighten them into magical forces, but sensed human efficacies are the highly probable sources of that great manifestation by the spontaneous movements of the human mind in the forces of magic and the *Manas* of the world. Striking powers in men, and perhaps great displays of power in nature, such as the sweeping hurricane, would help to heighten the sense of powerful forces that was born from a sense of the powers of man himself.

Pointing the magic dart seems to Valinowska to be probably the most widely spread magical method. The ghost shooter is a Banks Islands variety of this. The sorcerer mixes leaves, dead men's bones, and other ingredients into a slender bamboo. When he takes his thumb from the open end the evil influence strikes at his victim. A dead man's bone, that is pointed at the victim, is a usual weapon in Australia, or a pointing stick may be jerked towards the man who

is to be killed. The magic dart proper, whatever its form, dispenses with the deference to natural sequences of the spear that is thrown as well as charmed, or of the charmed net that is also spread, and relies on sheer efficacy. When the Australian native jerks the stick towards his victim, or lays the bone to point to him, he usually sings efficacy into the magic dart. In this magical method efficacy is usually poured into the deadly dart by a charm or spell. Spells themselves may be sufficient, or very nearly so: the Koromaké of Easter Island killed enemies by casting them, and the invocations of the Magi were said to make the earth endure. This power of the spell intimates the vivid sense of human efficacies that manifests in magical forces. It intimates that confidence in the power of human wishes themselves which Freud notes in primitive men. For primitive man Hartland remarked, personal will and *Orenda* are the fount of all causation. *Orenda*, or *Mana* is the elaborated sense of personal efficacies. The effects of this primary sense intimate the vivid realization of power in human volitions as well as in the human efficacies more concretely manifested in physical strength or moral ascendancy. Magic darts do kill. An Australian native died when he knew that a sung bone had been pointed at him. Baldwin Spencer, who knew many native tribes of Australia well, says that "You have only to tell a native that he is the victim of evil magic and he succumbs at once and can only be cured by the exercise of counter magic." The ghost-shooter, according to Rivers, can kill in two days. The same power of suggestion is fully exemplified by Sir James Frazer. This extraordinary faith-killing has a double significance: it kept magic alive because magical forces did kill, and it intimates the origin of magical powers in an almost incredibly heightened sense of human efficacies.

The *pointing* of the magic dart defers to nature's ordained routines at one point: the charmed spear defers more completely by being thrown as well as aimed. The efficacy in the magic dart may defer still more if it is conceived as an invisible or subtle missile. The curse may defer to mechanical laws if it is a spiritual bullet. Some writers would sympathize with Emerson's characterization of magic as a deep presentiment of the powers of science. According to Hobson, magic shares with science a distinction from animism by recognizing uniformities. Sir Alfred Lyall discerned the *dim notion of cause and effect*, that necessary basis of all reasoning and experience, in the vagaries of magic. "The physics of the 'avage,'" as Bastian called magic, suggests a primary erratic science. The "defined procedure" of conveying *Mana* must not, however, obscure Whewell's recognition that magic fails to perceive natural causation. The mysteriousness and awe that tend to surround magical agencies hint at the primary sense of power. The charmed spear, that kills because it is

charmed and not because it it pointed, aimed, and thrown, is a significant magical instance. Deference to the determinate sequence of events is incidental to magic. It is exacted by nature: the magic dart can kill a man because he fears it, but it cannot kill a distant deer. Malinowski calls magic a pseudo-science. It often does simulate dependence upon inadequately understood causal sequences because many things will not happen unless nature's ordained routines are sufficiently obeyed. The stereotyping of rites, and the frequent importance of correct procedure, suggest that magic, like rational science, depends upon determinate sequences, though these may be eccentrically conceived. The charmed spear or net, however, hunts at the truth. The emphasis of magic falls upon coercive power, and that power essentially makes things happen. Such a sheerly naked efficacy can only be an ideal limit in a world of determinately connected events. There must be deference to these, and much deference there is even in wild magic. Even spells and charms, in which the sheer efficacy of magical forces is often very naked, often defer to the recognition of natural sequences real or imagined. The magical force, however, is essentially a power that makes things happen, and through all its multitudinous forms it seems to originate in an extravagantly heightened sense of personal efficacy.

For Sir James Frazer, magic is a spurious system of natural law. "The idea of impersonal forces" acting by "fixed and invariable laws" had not "fully dawned or darkened" upon primitive minds, but the "germ of the idea" was present both in the business of life and "in magic art." This ignores the essential magical emphasis on sheer coercive power. Deference to "fixed and invariable laws" is exacted from magic, it is constantly mingled into it, and it is, from time to time, prominent in magical procedure, but it is not its essence.

Albertus Magnus, in the thirteenth century, told a story of the basilisk that Pliny had told in the first. The basilisk traditionally slew by gazing at its victim: as Bacon afterwards said, it killed "by aspect." A corpse slain by the stare of a basilisk lay on the ground. A horseman rode up to the corpse, touched it with his spear, and fell dead. The characteristics of the magical efficacy are visible in the death-dealing power of the basilisk's stare, in its transmission through the spear, and in its fatal communication to the horseman. The magical efficacy is essentially a thing like *force*.

The transition from magic to rationalized procedure, or to that completely rationalized inquiry which we call science, is too obvious to miss. The venerable doctrine identified man, the *microcosm*, with a miniature of that *macrocosm*, the world: man's body, as Donne expressed it, was God's recapitulation of nature. The charmed spear is the system of magic in miniature, the recapitulation of magical procedure, more truly than man is a recapitulation of the world.

Drop the charm, and rationalized procedure remains the transition from magic to science diverted the emphasis from coercive forces to the determinate sequence of events. It was a long process, and a fluctuating one. It began in very early days when magical efficacies deferred to nature's ordained routines. It received an impetus when Greek science grew and flourished. It waned again when the great Greek intellectual effort had reached its acme in the centuries just before Christ. At the end of the seventeenth century, as Berthelot has said, the rational science that had first appeared in Greece was finally domiciled in Europe. The story of these vicissitudes is too long to tell, but one significant seventeenth-century episode can illustrate the transition.

When Van Helmont died in 1644 he had had some strange experiences. These included the metamorphosis of mercury into gold. He had received the "fourth part of a grain" of "The Stone of Philosophers" that was coloured like saffron, but weighty and shining like powdered glass. An adept had also given him half one grain of the Powder of Projection. He had prepared quicksilver, heated it in a crucible, projected his potent powder upon it, and congealed the mercury into gold. His "fourth part of a grain" had transmuted "eight ounces of quicksilver." These transmutations were achieved in private but several large companies had watched him transmute quicksilver into gold by potent powders.

The alchemist tried to concentrate transmuting power into his Powder of Projection. He sought this transmuting power in laboratory art, in the might of the stars, in the purity of his life, and even in invocation or prayer. The great transmuting might of the meagre grains suggests the coercive might of the magical force. The magical origins of alchemy though it had rational origins too, support the suggestion. The furnace and the acid are great rationalizers, for they compel deference to natural sequences, but they had not weaned alchemy from illusory magical efficacies when Van Helmont threw his saffron powder on to the shining quicksilver.

When Van Helmont was dead, and Descartes had imposed the Mechanical Philosophy upon the seventeenth century after his own death in 1650 the Honourable Robert Boyle lingered uncertainly over the reputed transmutations of Van Helmont. The Belgian was a mystic and the laboratory seemed even to the pious Boyle to be no place for such visits from angels as the Helmontians described. Yet Van Helmont was a sound observer, he was too honest to lie, and the records seemed to bear the stamp of truth. If the quicksilver did become gold, Boyle reflected, a mechanical explanation was possible. Within the gurgling mercury, corpuscles rolled lazily over one another like smooth little polished globes. The crucible quickened these sluggish motions. There might be a tumult of minute rapid

particles within the apparently quiescent powder. The crucible would also quicken these motions. At the moment of projection the particles of the powder might throw themselves fiercely on the more sedate corpuscles of mercury. Some quicksilver corpuscles might be knocked into the air, the rest might clash violently together. The impacts might weld them together, and the compacted mass might be gold. Boyle laid down no law, but nature had great transforming powers, and the internal corpuscular fury of the powder *might* spank gold out of the quicksilver.

In Boyle's rationalization of Van Helmont the magical efficacy is clearly replaced by presumed natural sequences, and the transition from magic to science is visible. The episode is significant all through. Boyle himself tried to emulate Van Helmont the old magical method survived in its rationalized form. Then the quest for the Powder of Projection steadily melted out of the serious scientific tradition. Magic has often been killed by kindness science coddles it in the rationalized scheme until it becomes feeble and dies. The transition from magic to science has proceeded differently at different points, but it has always transferred an emphasis from coercive might to the determinate sequence of events.

THE NATURE OF SUBSTANCE

G A DE C DE MOUBRAY

I

THE classical and scholastic view of things was of neutral substance to which qualities were attached as substantial adjuncts. Qualities could apparently not be conceived of otherwise than as entities—blueness, hardness, pliability, toughness, translucency, and so on. Noun substantives were the part of speech by which they could most properly be referred to. The use of adjectives did not imply that these qualities were not substantival entities, but emphasized their subordinateness to the thing itself, and were useful in giving pliability, lightness, and elegance to speech. But qualities could not be conceived of otherwise than as something superadded to the neutral substance which carried them.

The basic postulates of the science of dynamics encouraged this view of the structure of things. Dynamics dealt with lumps of substance (matter) the only characteristic of which was mass. This mass was incidentally so featureless a quality that it could be conceived of as concentrated in the centre of gravity of the body. On this completely inert mass played the forces to which it was subjected. These forces were something radically different. They were far more markedly differentiated from substance than were the qualities of specific gravity, elasticity, and so on which adhered to substance. They had no relation to substance other than the power of acting upon it, they formed a different category altogether. Movement, momentum, and kinetic energy only came into existence through forces acting upon substance.

II

Shattering this world of ideas have come the discoveries and theories of the modern theory of matter. The fundamental thing in the universe is now said to be motion—not substance in motion but the motion of electrons. And electrons do not appear to be composed of substance but to be minute electrical charges. Apparently, whatever electrical charges are they are not substance, so that in the final analysis substance is non-existent—it is an illusion! (An unexpected rapprochement between modern science and ancient Hindu philosophy!)

This is the very antithesis of the common-sense view of the structure of this material world

The twentieth century has the honour of being the battle ground between the strangest pair of opposites in the world of ideas which ever encamped against each other. The circumstances of the battle are as strange as the opponents. For whereas hitherto learned opinion has consistently been on the side of common sense, it is on this occasion fairly solidly on the other side. The opinion of the few experts in this field of physics being agreed on the essential points, the rest of the body of the learned can do nothing but follow the lead. So that among the learned, who alone are capable of putting up a fight, the fight is already won—a very one-sided battle! And yet there is a feeling of restlessness among the philosophers. Professor Hobhouse recently said "I would go so far as to say that some of the things I have been invited to swallow as being absolutely necessary to intellectual salvation appear to me more difficult of clear conception than any dogma of the Council of Nicæa from which I thought I had escaped in days long ago." And again "If, again, it turns out that physical theories collided with these elementary assumptions the result seems to me quite as awkward for science as for common sense." Dr Delisle Burns writes "The more resolute of the scientists who venture into philosophy give an impression of certainty which would make a mediæval theologian blush."

These statements reveal the underground rumble of discontent which will no doubt lead before long to the formation of an army to encamp against that which has hitherto had so easy and sweeping a victory.

III

In the meantime certain of the philosophers are endeavouring to build a theory of the structure of the universe on the foundations of these scientific hypotheses. That is, I take it, Professor Whitehead's endeavour in his book *Science and the Modern World*. For a short account of those of his views which are relevant I would refer the reader to an article in the January number of this *Journal*, "The Location of Physical Objects," by Olaf Stapledon. I propose to take that article as read.

Professor Whitehead does not go so far as to analyse matter as consisting merely of motion. For him the ultimate *esse* is "events." What is meant exactly by "events" is difficult to grasp. An event is qualified space-time—or, to be more accurate, it is not a bit of space time, but it has spatio temporal relations, and it has character, which distinguishes it from other events, and certain objects are

located in it. I regret that I cannot visualize this concept: Objects according to Stapledon have physical existence so long as they are the enduring characters of passing events. I take it that the substantiality of an object is merely one of the enduring characters of a certain chain of passing events. The essence is event, the quality is substance. According to Professor Whitehead events are substantive and objects and presumably substance are adjectival. Now such reasoning (I hope I have represented it correctly) strikes me as inaccurate. Events are surely happenings, movements, action. They must be verbal and substance then not adjectival but adverbial. We have really not moved very far away from the view that in final analysis matter is resolved into movement—the extreme verbal view of the universe. Professor Whitehead adds to the fullness of the idea without adding to its clarity by making substantiality an attribute of motion.

The obverse of this modern view of the nature of matter is its criticism of post-Berkeleyan idealistic philosophy. The latter distinguishes between primary and secondary qualities, secondary qualities being dependent on perception by an observer. Among the latter are included colour. To follow Stapledon: Primary qualities inhere in the object whether anyone knows them or not. Secondary qualities unperceived are non-existent though some of their *causes* are certain never-perceived primary characters of the object itself such as the rhythmical activity of atoms and electrons. The ground of this distinction is said to be that while primary qualities are constant in the experience of all observers, secondary qualities vary with the situation and condition of our sense organs and the transmitting medium. How can colour itself be supposed to exist in the object when its perception by the subject is the end result of a complicated chain of physiological events whose nature is wholly unlike that of the ethereal vibrations which stimulate the retina? Moreover, since colour entails for its existence a vibration, it cannot be a character of anything briefer than *one* pulse of that vibration. How then can it be a character of an object which (we are told) must be supposed to have existence even in periods of any degree of brevity? Furthermore, as to the brownness of the penny, he says:

The penny is surely something or other definite. Then what is it? It is not the ringing sound for that fills the room, and the penny we say does not. Yet in just the same sense its brown colour fills the room.

It is of course clear that this is a development of the theory of a four-dimensional space-time continuum itself an aspect of Einstein's Relativity Theory. It would unduly prolong this article to study the relations between the Relativity Theory and my theory of substance.

IV

I join issue over this question of colour. To look upon the colour of copper as a quality possessed by the copper of sending forth rays of light (consisting of vibrations of ether of certain wave lengths) is wrong. Researches particularly in connection with colour photography and the reproduction of coloured images by means of photography offer abundant proof on this point. I shall quote from two popular publications:

'Now the light of the sun and of other incandescent solid bodies, which can be split up into a continuous multi-coloured band or spectrum contains light of *every kind to which the eye is sensitive* and therefore every *visible* colour may be regarded as being composed of white light from which some of its *visible* constituent colours have been either partly or wholly removed. In other words what we call a coloured object is one which has the power of *removing* some of the constituents of white light while a coloured source of light, such as a green or red flame is one which does not emit all the visible kinds of light in those proportions in which they occur in daylight. A coloured article therefore does not take white light and transform it by a *process of exchange* into coloured light as many people seem to imagine, but acts by absorbing definite fractions of each component of the incident light fractions which may range in value from almost nothing to practically the whole " '

'Remembering this conception of light, let us consider why we term a given filter red. It will appear red because it only lets through red light but white light consisting of blue violet, green, and red is falling upon it, so that clearly it is red because it stops or absorbs the blue violet and green light.

Similarly, a piece of red paper is red because it reflects red light, but it has falling upon it white light, consisting of blue-violet, green, and red so that it must absorb the blue-violet and green light, not reflecting them but only reflecting the red light. We are therefore justified in saying that anything which absorbs blue-violet light and green light together will be red ' '

The importance of this definition is that it defines 'red' without reference to the colour of the incident light. Take a scarlet book and examine it by a light containing no red, such for instance, as the mercury vapour lamp in which red is almost entirely wanting. The book will no longer reflect red light because there is no red light for it to reflect, but it will still absorb the blue violet and green light of the lamp and will look black. It has not of course, changed its nature,

* Panchromatism *Ilford Magazine* p 5

* The Photography of Coloured Objects *Kodak Magazine* p 10

and we should still be justified in saying that it is red if we define red as we have done above

"In the same way a yellow object is not one which reflects yellow light (there is very little yellow light indeed in the spectrum, and if an object reflected only yellow light it would be so dark as to be almost black) but a yellow colour is due to blue absorption. It reflects the other two components of white light, green and red, so that we should be justified in saying that yellow light consists of green light plus red light, but for our purpose let us consider yellow simply as a lack of blue, yellow is white minus blue, so that if you have a beam of yellow light and add blue to it, you will get white light ' ' "

The characteristic colour of bright copper is therefore due to the absorption by it of a band of rays somewhere about the blue green. I maintain that this is not a quality tacked on to the neutral substance of copper, but is the very manner of existing of copper, it has an avidity for blue-green rays, part of the *existence* of metallic copper is the 'yearning' to absorb, and the active absorption of, blue green rays. The word "yearning" is unfortunate, but it is the best I can find in English. The German *es strebt nach* is better.

The point is that according to this analysis substance is not a neutral, inert substratum with qualities merely tacked on and playing a role in the universe only through being moved about and tormented by forces exterior to itself, but that it is something which is, 'yearns' and acts, it is at one and the same time substantive and verb: one aspect of its existence is action.

V

Carrying on the line of thought it follows that all force is an aspect of substance. It can act internally or externally through appropriate media. We break up the old dynamic theory of force, being a totally different category from substance.

The obvious reply to this line of argument is that although it may fit in extremely well with the results of spectroscopical examination of dyestuffs it ill accords with the data which have been accumulated in researches into the constitution of matter: for we get back to the theory that atoms consist of constellations of protons and electrons and that protons and electrons are not substantial, but consist of electrical charges.

My only way out of the dilemma is to suggest, and to put forward reasonable arguments for the belief, that even if electrons are only electrical charges they are nevertheless substantial. This is in fact what I propose to do. I submit that the present deadlock forces us to

* The Photography of Coloured Objects *Kodak Magazine* pp 10 and 11

explore the possibility of there being completely different types of substance, so different from "matter" and yet in a subtle manner evolutionarily connected with matter as to make it excusable that its existence should have been denied

I propose to base myself on an opinion of Heisenberg's as to the nature of electrons and on Professor Lloyd Morgan's theory of "emergent evolution"

Stapledon quotes Heisenberg as arguing 'that the electron within the atom is no distinct entity. Atoms and *isolated* electrons are real, electrons within an atom are mere figments'. I would ask you to keep this idea at the back of your mind while we discuss emergent evolution. As myself in a very amateurish way a biologist rather than a physicist, I am surprised that this idea of Heisenberg's should not have entered the arena at an earlier stage. Electrons only appear at the breakdown of an atom. And we *know* that the nucleus of a plant or animal cell undergoes extensive alterations at the time of subdivision characterized by the appearance of a definite number of 'chromosomes,' bars or half hoops which absorb dye with avidity. Each of these splits down the middle. One lot of halves travels in one direction, the other lot in another, and thus two nuclei are formed. In most animal cells there are in addition two 'solar bodies' of high refrangibility from which the appearance of rays can be seen drawing the half chromosomes apart and towards themselves. This is a striking analogy to the protons and electrons in an atom. After subdivision the chromosomes disappear, and under ordinary vegetative conditions a tangle of threads all through the nucleus, also avid of dye, shows up under the microscope. These threads and chromosomes are taken to consist of the same substance. The analogy between the constitution of the nucleus and that of the atom according to Heisenberg is remarkably close. Whether there can be any but a superficial resemblance between these two sets of conditions is, however, another matter. Chromosomes and solar bodies are comparatively motionless. There is no momentum or kinetic energy to be dissipated or transformed in the course of their metamorphosis from separate chromosomes into a tangle of continuous thread. The case is otherwise in that of the electrons travelling at an immense velocity in orbits round protons.

But this is not the line of argument which I am intent on suggesting to you. I do not propose to argue that electrons are produced by the metamorphosis of a thread like structure within the atom. Rather, allowing that atoms do really contain electrons revolving in orbits round protons at the same velocity as they possess when they shoot free from atoms, I wish to stress the point that apart from this phenomenon of shooting off electrons under certain conditions atoms show no other sign of being planetary systems of protons and elec-

trons, I wish to argue that the compound of protons and electrons bears no perceptible relation whatever to its elements, that by "emergent evolution" something of a totally different nature has resulted from the combination of electrons and protons

VI

Now let us turn to the study of the concept "emergent evolution" I propose to put nothing of my own into this study other than the selection of passages from Professor Lloyd Morgan's article, also in the January number of this *Journal*, entitled "The Case for Emergent Evolution"

The word 'emergent' was suggested by George Henry Lewes for specialized use in contradistinction to 'resultant'

"There are two classes of effects markedly distinguishable as *resultants* and *emergents*

'What Lewes urges may, I think, be reduced to this There is something more in the constitutive character of a chemical compound as a product than can be deduced from generalizations based solely on the observable behaviour of its components taken severally He suggested that this something more should be called 'emergent', and he contended that this something more can only be disclosed by observation of what actually happens One may know what will be the effect of heat on this, that, and the other component as such, but this will not enable one to deduce what will be its effect on the product when these components are allied in some specific mode of chemical combination *That* one must learn through observation and experiment *That* is emergent

'It is,' he says, 'precisely because effects are mostly emergents that Deduction is insecure, and Experience is requisite to confirm even the most plausible deductions' 'Who' he asks, 'before experiment, could discern nitric acid in nitrogen and oxygen?' One supposes the answer he would give is 'No one' But, if so, is this 'discernment,' when it comes, the 'confirmation' of deduction? Lewes replies that after all it may be For 'it is no extravagant hope that the day will arrive when we shall not only know the separate operations of [component] agents but their mutual modification in the product which emerges from their union' In that event, however, will the claim for emergence be any longer tenable?

"This only need be added to render clear the position as I see it Lewes dealt with events at two levels at a lower level, that of the behaviour of components, and at a higher level, that of the behaviour of products He says, in effect there is somewhat in the behaviour of

product-events at the higher level that cannot be deduced from generalizations based solely on the behaviour of component-events at the lower level. But he then adds that some day we may frame what one may call 'both-levels generalizations'. On the basis of these more comprehensive generalizations the nature of the product will, we have reason to hope, be deducible. The point here is that since the wider both-levels generalization *already includes* all that observation has then disclosed in the behaviour of the product, from this wider generalization all the effects are deducible.

" It may be asked whether we may not do well to reserve the word 'emergent' for somewhat observable at the higher level of products which is not deducible from aught that is given at the lower level of components only.

" What we find in our world is a multiplicity of natural events in natural relations. But we find—such is our claim—that orderly clusters of events may be arranged in a natural hierarchy. Mr. Whitehead has suggested that any natural cluster of events organized on a definite plan shall be called an organism. On these terms there is a natural hierarchy of organisms, on an ascending scale of stages or levels.

" We claim that, far from disclosing anything disorderly, emergent evolution discloses an orderly advance in a changing order of nature. In other words, we claim that some new empirical generalization is required to cover the orderly advance in the evolutionary course of natural events.

"But pressed home and universalized, the hypothesis of emergence does imply that at any given evolutionary moment the order of nature is then incomplete—that even now we live in 'a world in the making' as contrasted with what William James called 'a block universe'. If this be in accordance with the findings of natural science, why should it not be loyally accepted and expressed in terms of empirical generalizations? I suppose they would incorporate some such propositions as these: (1) There has been a hierarchical order of new modes of organization, with attendant properties, in the evolutionary past up to date, (2) there are no grounds for supposing that there will be in the future no further steps upward in evolutionary order, (3) there are good grounds for expecting that new steps, if such there be, will prolong the orderly, and nowise disorderly, advance of nature, but (4) there is no logical basis for deducing what will be the nature, in characterizing detail, of new modes of organization not yet existent in our world.

'I spoke above of a natural hierarchy of organisms, in Mr. Whitehead's extended sense of this word, on an ascending scale of stages or levels. It matters not for our present purpose what that hierarchy may be. Bits of it here and there have already, we think, been dis-

closed by scientific inquiry—by physics near the foot of the scale, by biology in its mid region by psychology near its summit. There are no doubt gaps in our present knowledge of the ascending scale of organisms. It is the business of further inquiry to fill in these gaps until we have a complete series of next to next stages of evolutionary advance. We are far enough from this goal. But may we not at least regard serious endeavour to reach it as sound policy in scientific interpretation?

“Mr Whitehead, then, invites us to give downward extension to the concept of organism. I accept his invitation, though it empties the word of all that used to be implied by it when it was restricted to the living. On these terms there is a hierarchy of organisms, say, from atom to man on a curve in which very many ‘points’ have still to be interpolated. But the plan of organization of the atom is very different from the plan of organization in the man. None the less, there is something common to both—something disclosed also in the organization of men in social fellowship. If there be an order of nature up to date it is to be expected that common to all hierarchical sub plans there shall in due course be found a comprehensive plan of organization susceptible of statement in some no less comprehensive generalization.

In search of something of this sort I have elsewhere asked leave, if only for purposes of exposition to give to the word ‘fellowship’ the same kind of downward extension which Mr Whitehead has given to the word ‘organism’. It is intended to mean a ‘specific mode of relatedness and what this implies. What it implies is I think, brought out by the use of the word ‘fellowship’, for this does imply members that play their part in fellowship.

‘I picture then even the atom as a community of which the members are protons and electrons playing their parts in atomic fellowship and, at the next hierarchical stage, I picture the molecule as a community of atoms which as members play their parts in molecular fellowship. All up the hierarchy I picture the organisms of the lower of any two levels as constituting members in a new mode of fellowship above it. I try to translate my thought into concrete terms. But in symbolic terms the notion is *a* s go together to constitute some *b* *b* s to constitute some *c* and so on up the scale, as far as it has reached in evolutionary progress. But the emergent claim is this. Take your stand on some organism at some level, say *c*, from that level you can neither predict what will be the nature of the next mode of fellowship at stage *f*, nor what will be the part that any instance of *c* will play as member therein.

‘Remember that this purports to be an evolutionary schema. *Ex hypothesi* at stage *c* neither the mode of fellowship *f*, nor any members in that mode of fellowship, were yet in existence. If, then, some

supposititious person who lived at stage e , and knew all about the behaviour of events at this and lower stages were asked to predict what further mode of fellowship there was likely to be, he would not have the data which would enable him to do so. He must await its coming. Then on the basis of observation and experiment he could formulate f generalizations. But they would embody something new and unforeseen. That something new we speak of as emergent.

"Something new in the higher fellowship, something new in each member newly incorporated in fellowship. What new in each member? The new characterizing feature that emerges when it then first plays some part as member in this mode of fellowship. It is no longer what it was prior to fellowship.

'Herein for many logicians lies that which forbids their acceptance of emergence in any such form as this. Let me illustrate from near the bottom of the scale. The neutral atom of helium, as I understand, has two electrons which play their parts in close association with a group of four protons in the nucleus, and two which play their orbital parts pretty wide of the nucleus. Now we are told that out of fellowship all protons and all electrons are exactly alike. So be it, *out of fellowship*. But we say that *in fellowship*, that is, *as members*, all four electrons are in some measure emergently different in accordance with the parts that they severally play.

'This is roundly denied by many logicians. But others regard it, and the like at all stages of fellowship as an implication of an organic theory of nature. Thus Mr. Whitehead says 'An electron in a living body is different from an electron outside it, by reason of the plan of the body. But,' he adds, 'this principle of modification is perfectly general throughout nature, and represents no property peculiar to living bodies.'

"I might here raise the question. If we may regard the suite of atoms as a hierarchical series, and if we label the hydrogen atom, with one proton and one orbital electron, a , and label the helium atom b , is the exact mode of fellowship in b predictable from generalizations based on the facts of behaviour at level a ? Whatever the answer may be, the question is, I think, pertinent in respect to emergence."

Let us return a short distance to the passage. 'Now we are told that out of fellowship all protons and all electrons are exactly alike. So be it, *out of fellowship*. But we say that *in fellowship*, that is, *as members* all four electrons are in some measure emergently different in accordance with the parts they severally play.' Compare with this Heisenberg's argument "that the electron within the atom is no distinct entity. Atoms and *isolated* electrons are real, electrons within an atom are mere figments."

Does it not spring to the eye that these two statements can be

reconciled¹ if we postulate that atoms and electrons are on two distinct planes of existence so that isolated electrons are a different category of substance, subject to a different set of natural laws, from the new category of substance, matter, which is formed by the emergent combination of electrons²

VII

For this idea of distinct planes of existence, of *discrete degrees*, in substances I am indebted to the little read scientist and philosopher Swedenborg. He developed it in his *Economy of the Animal Kingdom*, published in Latin in Amsterdam in 1740 and 1741. For him the phenomenon of discrete degrees was not limited to the major planes of existence but even plant and animal tissues were built up in series of three degrees. I quote from a later, theological work in which he incorporated some of his earlier scientific and metaphysical theories. "The science of degrees is as it were a key for opening the causes of things, and for entering into them. Apart from this science scarcely anything of Cause can be known. For without it, the objects and subjects of both worlds appear of such commonness, as if nothing lay in them beyond the thing that is seen by the eye, when yet this, relatively to the things that lie deep within, is as one to thousands or to myriads. The interiors which are not obvious can in no wise be uncovered unless degrees be known. For exteriors pass into interiors, and through these to intimates through degrees, not through continuous degrees, but through discrete degrees. Continuous degrees are as the decrements from grosser to finer, or from denser to rarer, or as the increments like the stages of light to shade, or of heat to cold. But discrete degrees are quite different: they stand as things prior, posterior, and postreme, or as end, cause, and effect. These degrees are called discrete, because the prior is by itself, the posterior by itself, and the postreme by itself, but nevertheless, taken together, they make one. The atmospheres, the ethers, and the airs are discretized into such degrees."³

Every muscle in the human body consists of minute fibres, and these put together in fascicles present the larger fibres which are called motor fibres and out of bundles of these exists the compound which is called a muscle. It is the same with the nerves."³

¹ There is much truth in William James's contention that one's first duty when in the presence of apparently opposing views is to see whether there is no way by which they can be reconciled and in his further contention that the result of such reconciliation must represent an important advance in the discovery of truth.

² *Divine Love and Wisdom*. English translation: Swedenborg Society, London 1890 pp. 113, 114.

³ *Ibid.*, p. 119.

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"It is to be observed that each degree is distinct from another through its proper coverings, and all the degrees together are distinct by a common covering. The first (degree) , through groupings, produces the second, and through it the third, and discretizes each from the other by drawing an envelope around it " 1

"In everything of which anything can be predicated, there is the trine which is called end, cause, and effect, and these three stand together according to degrees of altitude [discrete degrees] Every civil, moral, and spiritual thing is not anything abstracted from substance, but all these things are substances For as love and wisdom are not abstract things but are a substance, so likewise are all the things which are called civil, moral, and spiritual These can indeed be thought of abstractedly from substances, but still in themselves they are not abstracted they do not exist outside subjects which are substances, but they are states of subjects or substances " 2 This is an ambiguous statement there appears to be confusion between "substances" and "states of substances" I would, however, hazard the view that Swedenborg was feeling his way towards the conception of substance, having at the same time substantival and verbal aspects Love for him was something active, the urge inherent in all action, and yet it was the most fundamental thing in the universe Its activity, its urge, was its method of existing

This is identical with the contention I made earlier in this essay in connection with the nature of colour, that material substances have a *will* to absorb, and do *actively* absorb, bands of the spectrum, that substance is not purely "substantive," but also "verbal" in its nature

In arguing along these lines I am not, as has hitherto been the custom, drawing the fundamental conceptions from physics and applying them to biology, but inversely drawing them from biology and applying them to physics To be more precise, I am drawing them from psychology (of the Bergsonian type) and from philology Philology has concerned itself in recent years with the question whether the verb or the substantive is the more fundamental, particularly in connection with the invention of artificial languages—and in Indonesian languages, in particular Malay—we have grown accustomed to the existence of a multitude of roots which appear to be equally substantival and verbal in character In drawing upon psychology for a fundamental conception I reach a point not far distant from Professor Eddington's, except that he emphasizes "consciousness", I emphasize *volonté* and *elan vital*, following Bergson

¹ *Divine Love and Wisdom* English translation, Swedenborg Society, London 1890, p 121

² *Ibid.*, p 131

Returning to Swedenborg, borrowing from him the conception of discrete degrees, and arguing from the assumption that electrons and atoms are discrete degrees of substance, it follows from an analysis of the characteristics of these two degrees of substance that the lower we go down the scale of discrete degrees the more inert, the more purely substantive the substance the higher we go the more verbal the more active the substance. The electron mummifies itself by combination and perhaps, by wrapping round its little planetary system the coverings of the atom, like the membrane of a nucleus. On the rare occasions when it pierces this prison it is again a lithe and potent spirit.

VIII

This theory while borrowing from Lloyd Morgan's theory of Emergent Evolution has something to give back. In the light of it a new distinction becomes desirable, between things which are on the same plane and things which are not. Thus electrons, atoms, and molecules are on three different planes. We cannot in any case argue from one to the other, as, so far as I am aware, only with the utmost rarity do we ever meet the middle link, the atom, uncombined. Most elements when pure exist as molecules. (We do meet the extraordinary phenomenon of molecules of the same element containing a different number of atoms forming different substances, as, for example oxygen and ozone.) But molecules even of elements and of a compound containing those elements are on the same plane. I would suggest therefore that chemical emergence is of a nature totally different from, for instance, the emergent tie which connects electrons with atoms. And it is in keeping with this distinction that the qualities of chemical compounds should to a great extent be calculable. Mendeleeff's Law has done this for inorganic chemistry. Kekulé has done the same for organic chemistry by his theory of the valencies of the carbon atom. This theory has led to the deduction of constitutional formulæ symbolizing fairly accurately the properties of organic compounds, and it is this which has made possible the brilliant achievements in organic chemistry both in analysis and synthesis which have taken place during the last half-century.

So, under Lloyd Morgan's narrow definition of emergence, chemistry has already in large measure ceased to present emergent phenomena. But I do not see why this narrow meaning should be retained. When a molecule of sulphur and two molecules of oxygen are introduced to each other under appropriate physical conditions, they combine to form two molecules of sulphur dioxide, a substance which has astonishingly few chemical or physical properties in common with either of its constituents. Surely in spite of the fact that this phenomenon fits in with a well recognized scheme of things the loss of the

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old properties and the emergence of the new is sufficiently striking for the use of the word "emergent" to be proper and helpful. But this type of emergence is nevertheless different from that when discrete planes of existence are brought into relationship. Moreover, the fact that a certain phenomenon has not yet been embraced by man-made theories is too superficial a characteristic to be worthy of being an ingredient in the definition of such an important concept as that of emergence.

IX

There is yet another aspect of the conception I have forged of the material atom. McTaggart argues that the universe is an organic hierarchy of substances and, the particular point which interests us at the moment, that there are no simple substances, for each has parts within parts to infinity, and is thus infinitely divisible. I do not pretend to have studied McTaggart sufficiently to know whether he himself makes the following deduction, but it appears to me that it is a lawful corollary of the infinite divisibility of substance that each subdivision of a portion of substance will itself be substance, that if, for instance, we imagine an atom divided into 10,000 minute hexagonal cells, each of those cells will consist of substance, none of them will be pure vacua. Now, on the theory that an atom of helium consists merely of a core of four protons with four electrons revolving in different orbits round it, possibly only eight of the 10,000 cells would contain substance, the remaining 9,992 cells being pure vacua. Our demand that each cell shall consist of substance can only be satisfied if there is a yet more elemental substance pervading the whole space constituting an atom.

One arrives at the same result along another line of argument. Electrons are maintained in their relative positions by the interaction of prodigious forces: the angular velocity of an electron compared to that of a Bugatti crankshaft is enough to stagger one. The centrifugal force can be imagined to act merely as a resultant of the electron's own motion along its orbital path, but that path is due to centripetal force. How does the centripetal force connect up the electron and proton? Whatever the expert physicist may say on the matter, common sense urges that such a force cannot act through a perfect vacuum: that there must be a medium. In the absence of a medium on the same level of substantiarity, I submit that the space comprised within the orbits of the electrons must be filled with a more elemental substance.

X

To sum up, returning to Stapledon's theme, What is "this penny"? It is composed of a definite substance, an alloy of copper. This

substance is not a mere inert neutral mass. It shares with all other substances on the same plane of existence a mutual attraction, whose manifestations are known as mass and gravity and weight. Among its numerous forms of 'will' and "activity" is an avidity for at least one band in the spectrum, somewhere about the blue green. When polished bright, a considerable amount even of the particular blue green vibrations escape absorption and bounce off intact. It is possible, even probable, that some rays of light enter a short distance into its substance before bending away from its hostile depths, but most other waves of light, on meeting the obstruction of its surface, continue on their reflected path. The mixture of these rays (less the absorbed blue green) is that quality which is perceived by mankind as copper colour. If the penny is old and dirty, its surface has other properties and absorbs some of all the rays, merely with a predominance in the blue green, and it appears brown to the eye.

The penny is hard. This we perceive by its resistance to pressure. This hardness is the expression of the inter attraction of its constituent molecules. The fact that the molecules themselves if disorganized would be found to consist of minute electrical charges whirling about so relatively far from each other as by comparison to resemble a few flies in a cathedral does not concern us, for the molecules are not disorganized, and behave as rigid masses in contact with each other.

Macroscopically the penny is smooth. Again, we need not consider what it would be like if the substance of which it is composed were disorganized into a more elementary substance.

This disc of certain relative dimensions to other neighbouring objects, though simply located, throws off minute particles of itself, an attenuate copper vapour. This vapour is perceived by us as its smell. The fact that solid copper has a vapour pressure does not prevent the solid copper from being "simply located."

In other respects, gravity, light, heat, electricity and magnetism, there is a constant yearning, repulsion, action going on between itself and all other objects on the same plane of existence in the universe. Its substance is not mere substance, but verb.

If we disorganize its molecules, or, perhaps, peep within the envelope of the atom at its constituent more elementary substance, on a higher plane of existence, we find something by comparison not substance at all. Gravity and mass are conceptions which do not seem to apply in this world, if they do they apply in some altered form.

We have reason to suppose that these particles of substance float in a medium of yet more elemental substance which constitutes their field of force. Following both Swedenborg and McTaggart, it seems

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likely that these are but among the lower members of a whole hierarchy of substances

We can make sketchy conjectures as to some of the qualities of the higher members of the hierarchy. We have already used the word *volonté* with respect to the lower members. Presumably this word becomes more and more apposite the higher the member to which it is applied. The word *mental* becomes appropriate. With Bergson we can speak of *énergie spirituelle* in describing their verbal aspect. It is arguable that spiritual energy is *conative*. In the words of McDougall "conative experience is the *felt impulse* to action,"¹ and again, "We have regarded conative behaviour as indicative of *an energy that works teleologically*"² By extension of these ideas energy in its highest or ultimate analysis is *purposive* and *self-conscious*. It is, moreover, *emotional* in nature (Consider, for instance, McDougall's "Now such felt impulse is present in all emotional experience"³). It is arguable that purposiveness on this grandiose scale is unthinkable without importing Rashdall's conception of the *moral consciousness*.

In other words, as one moves upwards in the hierarchy of substances even to the Absolute, the Eternal, one must reach a substance which in its substantival aspect is indivisible, all pervasive, all-inclusive, self-existent, from which all other members of the hierarchy are derived by emergent evolution. In its verbal aspect it is an all-powerful yearning and avidity for action, purposive, aiming at the production of good, conscious, appreciating relative values of goodness (elements of Rashdall's "moral consciousness"), and emotional in character—something not very far removed from the theologians' idea of Omnipotent Infinite Love.

But this, I repeat, is only conjecture. The main points of my argument are the dual nature of substance, substantival and verbal, substance and energy being only different aspects of the same thing, and the existence of a hierarchy of substances connected with each other by emergent evolution, the characteristics of higher members being unrecognizable in their emergent products.

¹ *Outline of Psychology*, p. 320

² *Ibid.*, p. 317

³ *Ibid.*, p. 320

THE DUAL BASIS OF CONDUCT¹

RT Hon SIR HERBERT SAMUEL GCB GBE MP

I do not propose in this paper to discuss what is the nature of the Good. Although the content of morality and the sanction for morality are closely connected and it may be argued with much force that it is not practicable to deal with them separately limits must be set to any one discussion. I would propose therefore not to embark upon the general question—what conduct is right and what is wrong but assuming that there is right and wrong to consider why we should pursue the one and avoid the other.

But I must in a sentence or two make plain at the outset what is my own position with regard to the content of morality. It is the position which has been summarized by Professor McDougall in the simple proposition—ethical precepts must be judged in the light of the consequences which result from the practice of them. In other words those rules of conduct and those actions are to be counted good which will in fact promote well being. If it is asked What is well being? that also should be answered by reference to the facts of human experience. If it is asked Whose well being mine or yours? that must be answered in a similar way. But this last point—mine or yours?—is so inextricably bound up with the sanctions for morality that I shall be bound to discuss it in some degree in the course of this paper.

Assume however that there is a right and a wrong do not stay, on this occasion at all events to analyse more than we can avoid in what it consists let us start from that point and consider why people should behave well when they may be wanting to behave otherwise.

In days when people in Europe at least generally believed in a real hell and believed in it so effectively that their hourly conduct was definitely influenced by the fear of eternal punishment the question had an easy answer. But always there were some who were sufficiently sceptical or indifferent not to be restrained by this motive. And in the modern world among great sections of the peoples—and the case might be put higher—it has altogether lost its hold. In Charles Reade's *The Cloister and the Hearth* one of the characters Denys has a catchword *Courage camarade le diable*

¹ Paper read at a meeting of the British Institute of Philosophical Studies on November 12 1929

est mort " But if the devil is dead, and for most people he certainly is, what reason is there why we should abstain from wrongdoing when it is attractive?

In order to find an answer to this question, it may be useful to put aside, at all events for the moment, what we may remember of the conflicting theories of the various philosophic schools. It may be useful to go in imagination, into the home and into the marketplace, and to examine why it is that people often do, in fact, abstain from wrongdoing although it may be attractive. To take an example, why is it that a particular grocer in a particular town does not put sand in his sugar?

The grocer may be influenced by one or more of a considerable number of motives. He may be afraid of being found out. He may be afraid, if he is found out, of being prosecuted for adulteration and convicted. In that event he would have to pay a fine. In addition his reputation would be seriously affected, and that would injure his trade, his income the prospects of his family. It would also impair his relations with the townspeople generally, with his neighbours in particular, and with his own wife and children. Even if he were not prosecuted customers who detected the adulteration might talk about it, and similar unpleasant results would follow.

But apart from any question of being found out, there are other motives which may lead him not to put sand in the sugar. He knows quite well that it would be dishonest. He does not wish to be dishonest. He may have been educated in his youth to condemn dishonesty. To be dishonest would be to lower himself in his own estimation. He may believe that honesty is the best policy, that is, that it will serve his own interest in the long run. Or he may be animated by religious motives, and believe that dishonesty is contrary to the Divine Will, or that he may be rewarded in some metaphysical way, in this world or in another world, for conduct that is good, and penalized in some way for conduct that is bad.

I do not suppose that my analysis is complete, but here we have at least half a dozen possible motives, any or all of which may operate in the case of a particular grocer to induce him not to adulterate his sugar. Some of these motives will be more active in one man, some in another, some may be more powerful at one time, some at a different time, sometimes action will be decided by one predominant motive, more often it will be decided by several in combination or by the resultant of several pulling in different ways. No theory or art of human conduct can be well founded which does not recognize that it is determined by one or many of a considerable variety of motives.

Several of these motives, however, can at once be resolved into

self-interest, in one form or another. The fear of legal penalties, or of loss of reputation, is obviously a matter of self interest. The principle that honesty is the best policy is purely egoistic. So is the desire to think well of oneself. So is the hope of reward, or fear of punishment, in a future life.

But not all the motives can be related so simply to self interest. There is obviously among mankind a sense of duty as such. It may partly be innate, it may partly have been instilled so effectively by education of some kind as to have become a habit. It may partly be the outcome of intellectual conviction, whether based upon religious beliefs or not.

And there is the powerful group of motives which is connected with care for reputation or 'love of fame.' This is egoistic, but it depends upon the fact that man is a social being, and cares about the opinion of his fellows. It is our own fame which is in question, and our own satisfaction in it, self-interest is involved, nevertheless there would be no question of satisfaction if we were wholly self-centred. We would be indifferent to public opinion. 'Fame,' 'reputation,' would have little meaning, except so far as they led to results that were lucrative.

As things are, we all know that public opinion is one of the most powerful influences upon conduct. All the methods, widespread and varied by which a group or a community expresses its approval or disapproval of the conduct of an individual, from some casual remark in conversation, through all degrees of elaboration, up to the public degradation of a traitor or the presentation of an address in a gold casket by a City Corporation—all these appeal, it is true, to an egoistic motive, but it is one which would not exist apart from social relationships. It is strong or weak according to the degree in which the individual concerned feels himself to be in communion with his fellow men. Sensitiveness to the opinion around us, the pleasure that is felt also in helping other people, the feeling of remorse if one has wantonly done an injury, these all derive from an element which is of the essence of our nature.

Professor Huxley, in his *Morals in Evolution*, said "When we come to human society, we find the basis for a social organization of life already laid in the animal nature of man. Like others of the higher animals, man is a gregarious beast. His loves and hates, his joys and sorrows, his pride, his wrath, his gentleness, his boldness, his timidity—all these permanent qualities, which run through humanity and vary only in degree, belong to his inherited structure. Broadly speaking, they are of the nature of instincts."

At the dim beginning of organic life stands the impulse of single cells to combine in forming higher units. Among its latest manifestations there is conspicuous the habit of co-operation among

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Mr. Walter Lippmann, in his recently published book, *Face to Face with Morals*, says: "It can be shown, I think, that those qualities which civilized men . . . have agreed to call virtues, have disinterestedness as their inner principle. . . . It is not accounted a virtue if a man

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eats when he is hungry or goes to bed when he is ill. He can be depended upon to take care of his immediate wants."

I suggest that the use of such terms as "praiseworthy" or "virtue" confuses the issue, because it brings in another question—the question whether society should or should not give its praise to certain actions, or exalt them in people's estimation by calling them virtuous. That is a separate point, to which I shall have occasion to return later. Apart from it is the question whether there is any clear line to be drawn between "interest" and "duty," whether self-interest is necessarily non-moral. My answer would be very definitely in the negative. Ethics is concerned with right conduct—not a part of right conduct but the whole of it. "Ethics," "morals," "duty," "ought"—these terms are comprehensive and cannot be limited to one part of our activities. There are duties which are to our interest to perform. It is a sound popular instinct which says, "a man has duties to himself." To keep ourselves in health and efficiency is both a duty and an interest. If a hungry man perversely refused to eat, or a sick man to go to bed, we should tell him, quite rightly, that it was his duty to do so. To deny that there are "self-regarding virtues" and to limit approval only to "other-regarding virtues" is the error of the ascetic. And if any man carried that principle to its conclusion, if he devoted himself wholly to his duties to his neighbour and, denying that he had any duties to himself, refused to perform them, he would not be able even to do his duties to his neighbour, for he would cease to exist. An infant, who should insist always on giving his biscuit to the other person and refusing ever to bite it himself, would be pursuing a moral idea that was false, and would not have attained a sound philosophic position.

The argument also involves us in a logical impasse. It is asserted that I have a duty to seek my neighbour's welfare, but not a duty to seek my own. The same rule must apply to my neighbour also. He has a duty to seek my welfare. But why should he do so, unless my welfare is a good thing in itself? And if it is a good thing in itself, have not I also a duty to promote it? We cannot imagine a society in which the people all lived, not by "taking in each other's washing," but by each one in turn providing a maintenance for his neighbour on his right.

The common sense of mankind recognizes this. To make morality co-extensive with self-surrender is seen to be impracticable. It follows that there may be virtue also in self-development.

I suggest, then, this first conclusion—that ethics has a dual basis, and that both egoism and altruism may be worthy motives.

The next question that presents itself is whether the one can be resolved into the other, whether every action which is in a man's

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own interest is also to the interest of others, and whether every action which is to the interest of others is also to the interest of the individual. In other words, is it always to one's advantage to do one's duty, and is it always one's duty to serve one's own advantage?

I believe that, if you introduce some such words as "enlightened" or "ultimate," there can be such a reconciliation. In the long run and on the average the interest of the society and of the individual are identical. It is the enlightened self-interest of every person to promote the well-being of the community of which he is a part, ultimately the interest of the average individual is best served if each one promotes that well-being, even at a sacrifice to himself. So also it is ultimately to the advantage of society that every one of its members shall be fully developed and efficient, and any action of an individual member—subject to certain conditions—which promotes his own development and efficiency is a service to society. But we live day by day, not in the long run, but in the short run. The interest of some particular individual may not be the same as the interest of the hypothetical average individual. So, on occasions, duty and interest do not in fact correspond.

If a man who is poverty-stricken has the chance of stealing some article of value without risk of detection, it is his duty not to steal. It is also his ultimate interest not to steal, partly owing to the effect of an act of dishonesty on his own character and self-esteem, partly because he will prosper best in a society of honest men, and such a society requires that all the members of it, of whom he is one, should be honest. But his immediate interest is to relieve his poverty by stealing. At all events, he may think so, with the result that sometimes men do in fact steal.

It is useless to rely upon the motive of interest to induce people to do in all cases that which they ought to do. If that motive were adequate, no one would ever do wrong. There does arise, in many cases, this discordance between ultimate and immediate interest. There does arise a discordance between average and personal interest. The term "the individual" is constantly being used in these discussions in two distinct senses. At one moment it means a generalized, typical individual, at the next moment it means some one particular person, and there may be a discordance between the interest of the two. "It is to the interest of the member of society to be honest. John Smith is a member of society. It is therefore to his interest to be honest." But there may be moments when it is to the immediate interest of John Smith, not as member of society, but as himself, to be dishonest. It is this discordance which leads almost every one sometimes to evade or to refuse the performance of social duties—some people, perhaps, to evade or to refuse them whenever they can. The problem for the moralist is how to induce the average person,

when the conflict arises, to pursue the ultimate advantage and not the immediate, the general interest and not the personal

He will first need to be assured that what purports to be a duty is really so, that the thing represented as a good can be substantiated as such. If the rule that is sought to be enforced is seen to be merely a convention, a routine, or if the reason given for its observance is only the command of some ancient authority of doubtful validity, if perhaps it even becomes clear, on examination, that the world would be the better if the rule were not to be observed at all—then, indeed it is as useless, as it would be pernicious, to try to find methods for enforcing it.

Here I must go back to what I said at the beginning, when I deprecated a widening of the field of this discussion by embarking upon the large question of the nature of the Good itself. I stated, however, my own position, and I am obliged at this point to refer to certain consequences that follow.

If you accept the view that good deeds are those that bring, or are calculated to bring, good consequences on the whole and in the long run, and bad deeds those that produce or are likely to produce, evil results, then it follows that good conduct tends to be rewarded by good consequences and bad conduct to be penalized by evil consequences. The reward or the punishment may or may not accrue to the individual who acts or at the time of the action, but it will follow some day or somehow.

The connection has been emphasized by teachers of religion and philosophy in all ages, although often the directness of the connection between the doer of an act and its consequences has been exaggerated.

'Evil follows the sinner,' says the Book of Psalms. In the Bhuddhist Dhammapada it is written "If a man speaks or acts with an evil thought, pain follows him, as the wheel follows the foot of the ox that draws the carriage. If a man speaks or acts with a pure thought, happiness follows him, like a shadow that never leaves him." And in the Chinese Yi King "The family that accumulates goodness is sure to have superabundant happiness, the family that accumulates evil is sure to have superabundant misery." Schweitzer says of Marcus Aurelius that he is "an enthusiastic utilitarian like the rationalists of the eighteenth century, because he like them is convinced that nature herself has created an indissoluble connection between morality and those tendencies which are beneficial both to the individual and to the community." Among the writers of the nineteenth century, one of the strongest advocates of this view is Huxley. He speaks of a "fixed order of nature which sends social disorganization upon the track of immor-

ality, as surely as it sends physical disease after physical trespasses "The absolute justice of the system of things," he says again, "is as clear to me as any scientific fact. The gravitation of sin to sorrow is as certain as that of the earth to the sun, and more so—for experimental proof of the fact is within reach of us all—nay, is before us all in our own lives, if we had but the eyes to see it."

Individuals prosper, no doubt, in spite of bad character, but not indefinitely. And if the prosperity outlasts one life, it seldom attends the family in a second generation. A civilization may be brilliant and rich, although corrupt, history has shown often enough that it cannot so endure.

But the cause is not that "nature herself has created an indissoluble connection between morality and the tendencies which are beneficial" to quote again the belief which has been attributed to Marcus Aurelius. It is not necessary to assume with Huxley some transcendental fixed order of nature," which punishes wrongdoing with suffering. The connection is much simpler. Once accept the principle that 'the good' is to be judged by consequences, that right action is the action which will yield in fact good results, and it becomes obvious why well-doing reaps its reward. In the long run morality brings happiness because "morality" is just that which does bring happiness in the long run. "Evil follows the sinner," precisely because "sin" is that which brings evil in its train. If the conduct is not calculated, somehow and some day, to bring evil it ought not to be counted as sin.

The ordinary view upon these matters appears to see things that exist, but inverted. In the same way, before the establishment of the principle of evolution, the current opinion as to man's relation with nature was an inversion of the facts. It held that man had been created by a single, definite act, his mind and body had been adapted to the physical conditions about him, and those conditions to his mind and body, the adaptation appeared as a marvel of adjustment. There were lungs able to breathe the air that was provided, there was air ready to supply the lungs. There were digestive organs able to use the foodstuffs that existed, and foodstuffs such as could nourish the organs. And so throughout. Then it was found that the world came first, and that man was gradually developed in such form as would fit the world. The adjustment is not less perfect, the process is not less marvellous—it seems to me far more marvellous—than at first appeared. But, given the process, the outcome was inevitable, in the sense that man is inevitably a creature which must suit his environment. If he had not been so, he would not have come into existence, just as countless varieties of creatures, which the imagination might conceive, have not come into existence.

So in the sphere of morals it has been currently thought that there

is some mysterious, transcendental adjustment between the moral code and the rewards that seem, as a rule, to be won by those who obey it, the penalties that seem, as a rule, to fall on those who break it. The adjustment is there. But it is inevitable. It is part of the very nature of the case. It arises from the fact that the moral code is made up of injunctions that have been selected for the very reason that those are the rules, as experience has shown, obedience to which brings welfare and disobedience suffering. If in any particular case it is found that this is not so, that a mistake has been made, and that the connection does not in fact hold, then the system of morality, sooner or later, will have to be amended, the injunction will be changed.

This therefore is the simple reason why, as a general rule and in the long run, happiness follows virtue and misery follows vice. That which we think will lead in the long run to happiness is what we call virtue, and that which we think will lead in the long run to misery is what we call vice.

The problem before us is clear. The Good is that which conduces, now or later, to the general well being, and therefore to the well-being, now or later, of the average individual. But how can a particular individual be induced to pursue it at a particular time when his immediate interest does not require him to do so, when it may invite him to do the opposite?

In order to furnish the inducement, we can only rely upon one or both of the fundamental motives, self-interest and sympathy.

A different kind of interest may be brought into play to neutralize the effect of the first. The penal law is one method. It may be to a man's immediate interest to steal, if there is no risk of detection and punishment. But if Society so arranges things that there is a strong probability of detection and punishment, it becomes to his interest not to steal. In all ages and in all countries some kind of legal penalty is found to be necessary, and to a great extent to be effective, as a preventive of crime.

But a different interest of another kind may be invoked—the desire for praise and the fear of censure—the influence, that is, of public opinion.

It has been said that *everybody lives and acts partly according to his own and partly according to other people's ideas*. "How few there are," said Pliny, "who preserve the same delicacy of conduct in secret as when exposed to the view of the world. The truth is, the generality of mankind stand in awe of public opinion, while conscience is feared only by the few." Huxley, seventeen centuries later, makes the same observation. "It is needful only to look around us to see that the greatest restrainer of the anti-social tendencies of

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men is fear, not of the law, but of the opinion of their fellows. The conventions of honour bind men who break legal, moral, and religious bonds, and while people endure the extremity of physical pain rather than part with life, shame drives the weakest to suicide." A saying of the Arabs puts the point with cynical brevity: "In a town where you know no one, do whatever you like."

And within public opinion, family opinion plays an important part. The moral—or the physical—influence of parents, and of brothers and sisters, often succeeds, in childhood and youth, in establishing certain kinds of conduct as conducive to the self interest of the individual, if that influence were absent, a different kind of conduct would have been to his interest.

All these influences appeal to egoism. But the appeal may also be made to motives which spring from the instinct of sympathy. There can be developed an altruistic sentiment of good will, either by giving scope to inherited and innate tendencies to benevolence, or by bringing to bear the forces of education in one form or another, through social stimulus and direction.

In primitive communities this is done through the influence of Custom. Custom is perpetuated through the training of the young, and is enforced by violence in case of need, or by the invention of supernatural terrors to guard it, such as the primitive mind will not dare to challenge.

But as civilization advances, individuals insist upon greater independence. Many among the customs being found to be bad, or being outworn, custom as an institution ceases to inspire respect. Attempts to support it by violence meet with effective resistance. Where particular traditions are still good, and can be justified on rational grounds, they will be supported by the general opinion, and will endure. But the community can no longer rely upon ancient custom alone to induce the individual to subordinate, with a docile spirit, his own immediate advantage for the sake of an ultimate advantage, or for the sake of the larger advantage of the society as a whole.

In a developed community, the force of mere authoritarian custom is replaced by all the various influences which aim at the training of moral character. The society finds it necessary to train the individual minds of its members so that immediate self interest shall not be the usual and predominating motive. To this end, among others, is the home training in infancy and childhood. Contributing to this end is the education of the school. There is constantly acting, from childhood to old age, the diffused, pervasive influence of family, of neighbours, of books, of newspapers, all the means by which a community can impress its ideas upon the individual. In modern times they have been vastly expanded, through

the establishment of universal education, through the wide diffusion of newspapers, through the popularity of the theatre, of the cinema, of broadcasting

Even more important than any of those forms of social influence, in many countries and many periods, is the influence of the organized religions. It is universally regarded as one of their chief duties deliberately to influence the individual mind, whether in youth or in maturity, so as to counter the motive of immediate personal advantage. They inculcate other motives which will lead to right action.

All these influences, separately and in combination, set a social standard of conduct. This standard may be high or may be low. If it is high, it will establish among the citizens a lofty sense of duty and of honour, and this will produce a worthy civilization, to the general advantage of the members of that society.

Of great moment in this connection is the question of Habit. Whether a man's action in any particular case be due to this motive or to that, once done its repetition is made the easier by the very fact of his having done it. Repeated several times, a habit is formed. And the habit itself becomes an impulse. In the language of psychology, 'our nervous system grows into the modes in which it has been exercised.'

If the normal man sees a pocket-book protruding from someone else's pocket, he does not debate within himself whether or not he should steal it. He has the rule of honesty. Into the formation of such rules, instinct, training, reflection, all enter. They are consolidated by habit. When we have consciously to refer back to one or other of such rules, and our will comes into play, and it is a question of a deliberate choice between what we regard as right and as wrong, we speak of conscience. Conscience summarizes experience and training, and applies their teachings with inward authority.

So we see that the egoistic feeling of self-esteem is reflected back, as it were, from the mirror of society. It gains a new influence. The man realizes that, if he does things which society regards as wrong, and which he himself accepts as wrong, his own character will be worsened by that fact. He will be made unhappy by having lowered himself in his own estimation. His conscience reproaches him.

The idea is expressed in the saying of Plato: "The greatest penalty of evil doing is to grow into the likeness of bad men." It has been repeated by the Platonist of to-day, Dr. Inge: "Within our experience, the reward of good living is not to make a fortune, but to become a good man, and the punishment of habitual sin is to become a bad man." It is found in FitzGerald's *Omar Khayyám*.

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I sent my Soul through the Invisible,
Some letter of that After life to spell
And by and by my Soul returned to me,
And answered, "I myself am Heaven and Hell!"

The principle lays stress upon the fact that every deed has a record upon the doer "It is right to say," as M. Bergson puts it, "that what we do depends on what we are, but it is necessary to add that we are, in some measure, what we do, and that we are creating ourselves continually."

Let me summarize the argument before drawing the conclusion. The motives to right conduct are self-interest and sympathy, both are primary elements in human nature. Immediate self interest often leads to wrong conduct. This must be countered by the Society, through the influence of the family, the neighbourhood, the Church, the State. It may be countered by bringing into play other forms of self interest by the operation of the penal law, or by imposing social penalties apart from law, or offering social rewards. It may be countered also by developing and directing the instinct of sympathy, so as to foster a sense of duty to others. When behaviour on right lines has been established, whether by one means or another, repetition becomes habit, and force of habit secures right action, without reflection, in ordinary cases. Where there is reflection, and a definite act of will is involved, habit is replaced by conscience. Where reason or discipline, habit or conscience, have led to the recognition of certain standards as right, then a departure from those standards will lower self-esteem, and we return to egoism, in another form, as the support of good conduct.

Now the conclusion "To preach morality is easy, to find a basis for it is difficult," said Schopenhauer. It is clear that there is no scope here for what T. H. Green called "the philosophic craving for unity." The matter is complex, and must so remain. If a person questions the basis of morality, and asks, "Why should I be of good conduct rather than bad?" the answer can no longer be given in a brief conclusive sentence, as in the days when he could be effectively threatened with an eternity of torment. The answer has to be of a much more elaborate character.

Society should try to arrange things in such a way as to obviate so uncomfortable a challenge. In some schools for young children a motto is in use "I am, I can, I ought, I will." A child of my

* In Mr. Bridges' great poem, *The Testament of Beauty*, may be found a parallel. Its central idea is the combination of 'Selfhood' and 'Breed' to create 'Ethick', 'Selfhood' being the individual and "Breed" the social motive that unite to form morality.

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are still needed. It is obvious that, in the West also, there still remain many matters in which the work of scepticism and of release is far from complete. But there are others where the man of foresight will now throw his weight into the other scale, into the scale of custom, will be cautious before consenting to relax the restraints of law, will try to strengthen, rather than weaken, the motives that spring from family unity and family pride, will reinforce the educational influences which seek to establish habits of right conduct; will help so to arrange the institutions and practices of society that, as far as possible, the man who acts rightly may be enabled to live happily, and the man who acts wrongly may expect to bear the penalty. In other words, we should try to secure that, so far as may be, a man's immediate self-interest should coincide with the general and ultimate interest. The fewer the cases in which they conflict, the narrower will be the practical problem that remains to be solved.

Finally, it would be an error to rate at a low level the importance, in the present stage of the world's civilization, of appeals to emotion as an influence to right conduct.

The strongest minds may dispense with emotion, and, seeing life by the clear white light of reason, may go their way unhelped by what may appear to them to be adventitious aids. Not so with the average man and woman, still less with the child. There is felt by most people a need of support through the emotions. It may be found in personal affection, in religious exercises, in patriotism, and the many other forms of *esprit de corps*, in the power of traditions that link with the past of the race, and in aspirations that link with all its future. These also are modes of appeal to the fundamental motives which determine action. Discrimination in the use of them there must, of course, be, but Society is wise when it ranks high their value and cherishes their continuance.

These are, then, the two conclusions which may be drawn from the whole discussion. Our social activities should be so framed as to inculcate in the individual a desire to do right, both from habit and from conviction, whether his own immediate interest is served or not. And society should be so organized that, so far as possible, when the individual does right his own advantage is thereby promoted. The final object in view is the well being both of the man and of the society, and that community is the best in which each man can feel that in serving either of these ends he is serving also the other.

ON RIGHT AND GOOD: THE PROBLEM OF OBJECTIVE RIGHT

PROFESSOR W G DE BURGH

I

WE have been led by our preliminary survey to acknowledge the autonomy of the moral life. The rightness of an action is something that is *sui generis* and ultimate. It is vain to seek a reason for the rightness other than the rightness itself. To the question, 'Why ought I to do what I ought?' the only answer is, "Because I ought to do it." It is with rightness as with truth. *Vera idea est norma sui et falsi*. In any moral situation, we intuitively judge what it is right to do, and in judging recognize that the obligation to do it is unconditional. That we possess this capacity is what is meant by saying that we are moral beings.

We have now to defend this position against objections. We have already noted that it is opposed to the historic tradition in moral theory which justified moral obligation on the ground that the rightness of an action was due to its intrinsic goodness or to its conduciveness to what is intrinsically good. The Greek philosophers who established this tradition, jealous for the primacy of the theoretic over the practical life, insisted on the necessity of the conscious exercise of reason in affairs of conduct. How could a man do the right unless he first knew and desired the good? And since all desire the good, how could a man know the good without desiring it? The Greeks, unlike the modern English, who distrust logical reasoning in practical matters—save to justify their actions after the event—believed in thinking out a reasoned plan of action before doing it, and their philosophers reflected this habit of mind in their theories of the moral life. Virtue, they said, was knowledge, vice ignorance. Show a man that the path of duty is the way to εὐδαιμονία and he will not fail to follow it. Thus ethics as the reasoned theory of morality started on its course with a bias towards

* So Price *Review of the Principal Questions in Morals* ch. vi (ed. 1758 p. 191). To ask why we are *obliged* to practise virtue, to abstain from what is wicked, or perform what is just is the very same as to ask why we are *obliged* to do what we are *obliged* to do. Cf p. 187. It follows that *rectitude* is a *law* as well as a *rule* to us, that it not only *directs* but *binds* all as far as it is perceived. P. 181. *Obligation* to action and *rightness* of action are plainly coincident or identical so far so that we cannot form a notion of the one without taking in the other.

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rationalism and telology Rational action was manifestly purposive, and the concept of purpose led naturally, as in Aristotle, to an interpretation of morality in terms of means and end Plato, in the *Republic*, had pointed the way, when he vindicated the claims of morality (*δικαιοσύνη*) by displaying its conduciveness to the Good (*το ἀγαθόν*) in other words, by showing that it pays (*λυσittelei*) The crux of this position lies, of course in the patent fact of evil desire We can understand a man wanting to do what he knows he ought not to do but when ought means conduciveness to good, and good is admittedly what all men really want, the presence of wants that are conflicting and incompatible raises an insoluble problem The only answer that could be given was that of Plato in the *Gorgias* that the bad man errs in choosing what he *thinks* good (apparent good) in preference to what all the time he really wills—the true good which is the universal object of desire *

The strength of this traditional doctrine is that it seems to offer a clear criterion of right and wrong Men's moral convictions are obviously liable to variation and error What I believed to be right ten years ago I may now as firmly believe to be wrong Other persons other races, other ages reverse moral judgments that were acted on with passionate assurance of their truth The stock examples of the pious inquisitor or slave dealer are merely striking instances of what occurs in the experience of anyone who thinks at all True, men's moral judgments show a more general agreement than is discernible in their interpretations of human history or of physical nature But the consensus is far from being universal and diminishes as we pass from the sphere of general principles to that of specific obligations Conscience is manifestly educable, in other words, it is fallible and defective We seek a criterion of objective rightness by which to measure our subjective and variable intuitions The form of good as embodied in the life of the community, seems to satisfy the demand It offers a safe refuge from moral opportunism Here in the Greek Polis in the Christian society, in the modern nation state in the complex life and institutions of civilized man kind are palpable objective values, determining the content of men's moral duties as contributory to the satisfaction of human desire and the realization of human good The problem of what is really right can be settled by appeal to what is really good

Can it? That is our question which we must consider more closely

II

Let us, first get clear of entanglements arising out of the category of means and end This category, in its plain and natural use, is

* On this whole passage see G C Field *Plato and his Contemporaries* ch vii

inadequate to the interpretation of the moral life.¹ For it involves a twofold abstraction. In the first place, one moment in the practical process is set up in isolation as the end for which all else is done, and, secondly, the continuous course of action is broken up into discrete fragments, which are regarded as externally related one to another. There is undoubtedly a value in such analysis, as when we study the score of a musical composition piecemeal, in order to gain insight into its structure. But in so doing we lose for the time our sense of the unity and life that inspired its creation and performance. Human conduct suffers a like violence when dis severed into means and end. Instances may certainly be found, such as Schlemm's pursuit of trade to amass money for archæological research, where the category can be applied without serious falsification of the facts. But its extension, as by Aristotle in the *Ethics*, to cover the whole field of moral action scarcely calls for refutation. It fails even to account for prudential or economic action, such as the building up of a business or the carrying through of an Act of Parliament. The successive phases distinguishable in the execution of a design are no more "means" to the final result than are the successive phases in a drama. The end is throughout immanent in the so called "means," which are therefore never merely "means" at all. Nor is the end a "result," supervening late in time upon its antecedents: it is rather the form that gives unity and coherence to the whole process. In any serious course of action, directed towards an end or good, the plan, initially envisaged in indeterminate or schematic form, grows in definiteness as the process unfolds itself, not by external addition, but by inner adjustment to the changing situation of fact. The category of means and end only comes into play when we analyse the situation prior to volition, or attempt to justify our action after the event. Strictly, the term "means" applies, not to any action but to the data which provoke to action, i.e. to the facts amid which we have to act, and which need to be surveyed theoretically before we determine what we ought to do.² The time of the train I have to catch, the structure of the rock I am about to climb, the state of my banking account and the actual needs of the person I propose to benefit, are "means" in this sense of material conditions of the prospective action. The refusal to apply the category of means and end to action does not, however, imply that such action is not purposive. "Means" implies "end," but the converse is not valid, 'end' is a wider term than "means." I purpose an act of will when I will it for its own sake, for its intrinsic right-

¹ Means and End are interpreted differently by Hegel (*Encycl.* §§ 204 ff.) See McTaggart's criticism of his interpretation of the category (*Commentary on Hegel's Logic* §§ 252-261).

² See Croce *Philosophy of the Practical* Part I Sect. I c. 3.

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ness What, then, about acts willed for the sake of a good? Here the end is indeed immanent in the action, but it also points beyond it We see here the reason why a great philosopher like Aristotle refused to rest satisfied with a *summum bonum* that was merely the immanent form of man's practical life The good if it be the true good is transcendent of any finite embodiment Of this inadequacy of finite ends to satisfy the desire for good we shall speak more fully in a later article For Plato and Aristotle, and the mediæval and modern thinkers who followed in their steps *praxis* was ever for the sake of *theoria*, action for the sake of rest This is the meaning of the doctrine that all action is *sub ratione boni* But the *theoria* though transcendent, is not externally related to the *praxis* it inspires the action from within and the joy of eventual fruition is conceived as enriched by the antecedent conflict

But the view that right is to be defined in terms of good does not stand or fall with the category of means and end There are two more serious objections, viz (1) that the problem of objective rightness remains unsolved, and (2) that the appeal to good as the ground of obligation is contrary to moral experience

(1) The doctrine in question fails to furnish a criterion of what is really right What we judge to be right is, we are told, really right if it conduces to good But how do we know what is really good? If we can trust our intuition as to what is good, why should we not trust our intuition as to what is right? Thus the old problem remains, and a fresh one is raised by the appeal to "conduciveness" to good Granting that we know what is good, how are we to determine what really conduces to it? A knowledge of causal connections is requisite which passes the capacities of finite minds To know which of two (or more) courses of action will produce most good—and we must know this if we are seeking an objective criterion—we must calculate their respective consequences to the end of time To do so is manifestly impossible, even with the aid of Dr Moore's very questionable assumption that after a limited period the effects of a given volition are infinitesimal and can be ruled out of account As we are clearly bound to act in accordance with our judgment, which may for all we can tell be wrong, the objective rightness of an action and our moral obligation to perform it fall hopelessly asunder We are left with what we fallibly believe to be conducive to what we fallibly believe to be good An obligation, thus unsecurely grounded would scarcely carry with it the authority which in fact it possesses in our moral experience—especially when it is counter to inclination The question will inevitably be provoked, Why *ought* I to promote the good, when I don't want to? Now an 'ought,' if derived at all, can only, as Professor Prichard has pointed out, be derived from another 'ought', if, therefore, it be derived from

"good," that must be because we recognize that what is good "ought" to be. We have seen that the phrase "ought to be" is meaningless, for "ought" refers always to actions and to actions alone. If, on the other hand, "what is good" is "what ought to be done," then, so far from grounding the rightness of the act upon its goodness, we are grounding its goodness upon its rightness. And this is precisely what Kant affirmed to be the truth. If, again, I am urged to do what is right contrary to my inclination because it is for my good (whether for my own good solely or for a common good makes no matter, though it is questionable whether "good" can be ever merely private), one of two things must happen. Either desire to attain my good is aroused, and I do what I judged right because I want to do it, duty being annulled in inclination, or if, as is often the case, I remain indifferent to what I know to be for my good, I am left still asking: Why should I do this act if I don't want to? The question is but pushed one degree further back. Nor, finally, do right actions differ from wrong merely in that the one attains, while the other does not, one and the same end. Success in getting the good cannot be the criterion of morality. The difference must lie as Kant insisted, in the will. I need hardly add that reference to sanctions, human or divine, is irrelevant to the ethical issue, power can never serve as the ground of right.

(2) The appeal to good as the ground of obligation is contrary to moral experience. This sounds a paradox on first hearing, for the traditional doctrine derives its force from its apparent consensus with the facts: "All men desire the good." We are not denying it, our point is that all men, as moral beings, also desire the right, that the two desires are different, and that the latter is independent of the former. Consider the facts. I confine myself to acts of deliberate choice, for it is here, if anywhere, that calculation of consequences enters into our thinking. We must carefully distinguish the theoretical preliminaries to volition from the act of will that issues from them. The intelligent moral agent, faced by a situation that calls for action, reviews the factual data, including past events and the probable consequences of alternative courses of action. The governing factor in this theoretical survey may be an event in the past or a probable event in the future, or both, or neither. My obligation to pay my rent is unaffected by any consideration of the bad uses to which my landlord may put the money. Or, suppose I am asked to assist, at considerable personal sacrifice, the university education of a youth whom I dislike but whose father rendered me a similar service thirty years ago. Here the dominant factor will be an event in the past. But present data and probable consequences will affect my deliberations, e.g. the actual qualifications of the young man, his existing resources, my ability

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to help him without detriment to graver obligations, the likelihood of benefit to him in his subsequent career. Out of these and many other considerations, unified more or less into a system in the course of the deliberative process, there emerges an apprehension, not of any factual datum, but an apprehension *sui generis*, that I "ought" to act in a certain way.¹ The factual data condition this intuition of rightness, but never wholly suffice to account for it. If my decision is called in question, I shall appeal to one or more of them, *e.g.* to the foreseeable good results, but I know all the time that the justification thus furnished is incomplete. Take another instance—Cardinal Newman's vindication in the *Apologia* of his action in leaving the Church of England and joining the Church of Rome. No one will doubt Newman's rare gifts of introspective analysis and persuasive expression or the transparent sincerity with which he laid bare his motives before the world. Yet who can resist the impression that far more went to the eventual decision than even Newman was able to disclose, and that when the moral dictate arose within him it came, like Augustine's *tolle lege*, as a new and imperious revelation? As Professor Muirhead has put it, there is an element of indirection in all moral action. The agent stakes his whole personality on the discharge of an unconditional duty. "Ich kann nicht anders." If, in the moment of volition, he "damns the consequences," it is because they have already been taken into account in the theoretical preliminaries. To consider them now would be to reckon them twice over. At most, if the martyr in a lost cause is challenged with the apparent failure of his act of sacrifice, he will appeal, not to a reasoned calculus of probable consequences, but to his faith in the "higher

¹ As Bradley makes very clear (*Ethical Studies*, pp. 193-8), the process of moral decision is one of intuitive subsumption as distinguished from explicit deduction from general rules. The particular decision is subsumed under the social conscience of the individual representing the ethical background appropriated by him in the course of his life. The term 'subsumption' must not be misunderstood. There need be no explicit reasoning character, embodying social principles of conduct may respond immediately to the situation that calls for action. Moreover the system of habits, views, and preferences which forms what we call a man's character at any moment is fragmentary and incomplete again it is at every stage a process of active growth hence the new situation is not merely subsumed under the pre-existing character but enriches and expands it. In every moral decision conscience (to use the common term) is modified to a greater or less degree. The 'background' whether consciously apprehended or not, never wholly suffices to account for the resulting intuition. This often comes as a bolt from the blue. In such cases it is futile to posit latent psychological antecedents for which all evidence or possibility of verification is lacking. Cf. Professor Taylor's remarks on St. Paul's conversion in *Contemporary British Philosophy*, vol. II pp. 293-4.

expediency Right must prevail But this faith in the eventual triumph of right in its ultimate conduciveness to good is grounded on the intrinsic rightness not the rightness on the conduciveness to good So is it in ordinary life People are far more readily influenced by the plea to do what is right than by the plea to do what will promote good Where the moral desire is present however weak it may be and however strong the counter inclination any appeal to consequential advantage even to that of others is felt as something like an insult to moral personality

III

If the question What is really right? cannot be answered by reference to what is good is there then no criterion of certainty for our moral judgments? Right is an idea of reason and implies a claim to objectivity The statements This is right I ought to do this are no mere expressions of personal preference as is the statement I like this If they were then as Dr Moore has argued no contradiction would ever be possible on a moral issue The answer of the savage when asked whether he understood the distinction between right and wrong— It is right for me to take my neighbour's wife wrong for him to take mine —would be no more self contradictory than are my preference for Irish whisky over Scotch and yours for Scotch whisky over Irish Moreover whether what we believe to be right in any situation be really right or not we *know* and do not merely *believe* or *think* that it is right to act in accordance with our belief This is a self evident intuition valid for every moral agent in every practical situation But though objective and universal it is a purely formal principle it gives no clue to the determination of material rightness i.e. of what it is right to do What I judge I ought to do cannot be merely that I ought to do it The rightness of that which we will believing it to be right cannot be the rightness of willing it The question of material rightness of the standard which determines in any given situation what it is really right to do still remains on our hands

In a striking article published in *Mind* some years ago Professor Prichard offers a short way out of the difficulty¹ He holds that *rightness* is an objective character of actions taken in entire independence of the character and motives of the agent and that it

¹*Mind* (NS 81 January 1912) under the title Does Moral Philosophy Rest on a Mistake? It will be seen that in the earlier part of this paper I am much indebted to Professor Prichard especially as regards his contention that the obligation to perform an act on cannot be proved but only apprehended directly by an act of moral thinking Compare also the same writer's Inaugural Lecture at Oxford (Clarendon Press 1915) on *Duty and Interest* pp 24 25

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can be apprehended by *knowing* as distinct from thinking or believing "The rightness or wrongness of an act has nothing to do with any question of motives at all" (*Mind*, p. 26) On the other hand, "the intrinsic goodness of an action lies solely in its motive" (p. 30) "As any instance will show, the rightness of an action concerns an action not in the fuller sense of the term in which we include the motive in the action but in the narrower and commoner sense in which we distinguish the action from its motive and mean by an action merely the conscious origination of something, an origination which on different occasions or indifferent people may be prompted by different motives The question, "Ought I to pay my bills?" really means simply, "Ought I to bring about my tradesmen's possession of what by my previous acts I explicitly or implicitly promised them?" There is, and can be, no question of whether I ought to pay my debts from a particular motive No doubt we know that if we pay our bills we shall pay them with a motive, but in considering whether we ought to pay them we inevitably think of the act in abstraction from the motive Even if we knew what our motive would be if we did the act, we should not be any nearer an answer to the question" (pp. 26, 27)

This doctrine, though stated with greater precision, is essentially the same as that put forward by Mill in a well known passage of the *Utilitarianism*¹ It seems to me to be entirely false The moral judgment, 'This is right,' or 'This ought to be done,' is passed, I maintain, on the action indeed, but on the action in what Professor Prichard calls the fuller and less common (?) sense in which it includes the motive I agree with Professor Muirhead that "we make a false start and queer the pitch from the beginning when we take our departure from the good act" (act, that is, in Professor Prichard's narrower sense) "instead of from the good man" When I consider what I ought to do, I abstract from the motive, but simply because the mere raising of the question implies the presence of the motive of moral obligation The desire to do my duty is there, I seek to make it determinate and concrete as this particular duty, here and

¹ *Utilitarianism*, ch. ii, pp. 26, 27 (ed. 1901), and note Cf. also W. D. Ross on "The Nature of Morally Good Action" (*Proceedings of the Aristotelian Society* 1929, vii ad init.) "The notion of the morally good must be sharply distinguished from that of the right It is only the doing of certain things irrespective of the motive from which they are done, that is right It is only the doing of things from certain motives that is morally good This distinction, once we have reached it, is so clear as not to need proof A right act, merely as such, has no value in itself" Dr. Broad (*Journal of Philosophical Studies*, vol. iii, No. 11, pp. 297-8) argues to the same effect from the ascription of rightness to emotions which are admittedly (he says) independent of our volition at the time I questioned the legitimacy of this ascription to emotions in the preceding article What to Dr. Ross appears self-evident is I fear, to me a monstrous paradox

now Doubtless, in our ordinary thinking, we are forced to draw a distinction between character and conduct, between man doing and thing done and, in application, to pass abstract judgments, now on the agent's motive, now on the overt act. We are thus led to discriminate certain types of motive as normally good from others as normally bad, meaning that they are apt to become determinate in right or wrong actions, and, again, certain types of conduct as normally right from others as normally wrong. As we noted in the previous paper, the frequent use of the term "good" with reference to the motive, and of "right" with reference to the act indicates the theoretical nature of the former kind of judgment. Legal associations have probably influenced the usage, for the law is primarily though not exclusively, concerned with the rightness or wrongness of overt acts. But it is not always thus, we often speak of good or bad actions, and of right and wrong motives. Particularly significant is the fact that "duty" is applicable alike to the motive and to the act done, and that when we talk of "doing our duty" we imply that it is done dutifully from the desire to do our duty. When a man does what (in the language of popular abstraction) he ought to do, but not because he ought to do it—when for instance he pays a debt from fear of the county court or keeps a promise from fear of social obloquy—he has not done what he ought to do, has not done his duty. He may have fulfilled a legal obligation—that is quite another matter—but he has not done a morally right act. To pay our debts is in ninety nine cases out of a hundred, morally right, but its rightness does not consist merely in the fact that it is the payment of a debt. If a judge sentences a guilty man in accordance with the law from the motive of personal resentment it is not a case of his doing what is right with a bad motive but a case of his doing what is wrong.¹ No action or class of actions is unconditionally right. The rightness is relative and as we shall see later, fails to satisfy the demand of the Categorical Imperative. As Plato showed at the opening of the *Republic*, moral rules—e.g. the keeping of promises—are open to exceptions, they are at best empirical generalizations, valid *ἐν το πᾶσι* but failing in strict universality. Moreover, the quality of the motive affects, as Mill was forced to admit, the nature of the action. The moment we pass from overt manifestation

¹ See Mackenzie *Manual of Ethics* p. 110. If he acts thus from the motive of duty accompanied by feelings of resentment we have either a case of mixed motives affecting the morality of the action or else if the resentment is inoperative as a motive the act is a right act. We disapprove the accompanying resentment because it is normally liable to operate and become determinate in wrong conduct. Actions motivated by love of the good will be considered in a later paper where it will be seen that the fact that they lie outside the boundaries of the moral field in no way derogates from their value.

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to inner volition and ask as in Ethics we are bound to ask. What did the agent really will to do? we find that the motive in its concrete actuality enters into and colours the intention. When a man saves another's life from desire to wreak vengeance on him, the act willed is a different act from that of the man who saves life from compassion or from a sense of duty.¹ To ignore the person willing is thus to mutilate the act and leads to the strange notion of a right that is right for everyone because it is right for no one in particular. The motive is part of the intention and the intention is what the agent wills to do. Dr. Johnson saw this clearly when he declared: "The morality of an action depends on the motive from which we act. If I sling half a crown to a beggar with intention (the impossibility of severing motive and intention is here evident)

to break his head and he picks it up and buys victual with it, the physical effect is good but with respect to me the action is very wrong. So religious exercises if not performed with an intention to please God avail us nothing. As our Saviour says of those who perform them from other motives: Verily they have their reward."

Finally the doctrine we are criticizing lands us in an intolerable paradox by its severance of moral goodness from moral rightness. It leads Dr. Ross for example to assert that a right act merely as such has no value in itself and that a morally good action is good in itself even when it is not the doing of a right act. If an act is right or wrong in entire independence on motive it is possible for moral goodness to find expression in wrong actions and moral badness in actions that are right. It may be consoling to the sinner, though hardly in accordance with either reason or conscience to know that virtue may be acquired in a life of wrong doing and that indulgence in envy, malice and all uncharitableness is compatible with the perfect rightness of the ensuing conduct. At least on the doctrine in question this is theoretically possible if the possibility remains in fact unrealized it can only be because it happens otherwise.

¹ So Price *Review* pp. 78-80 after defining action to mean not the bare external effect or event produced but the ultimate principle or rule of conduct or the determination of a reasonable being considered as accompanied with and arising from the perception of some motives and reasons and intended for some end continues with these words: "According to this sense of the word action whenever the principle in conformity to which we act or the thing ultimately intended is different the action is different though the steps pursued or the external effects produced may be exactly the same. The external effect or event or in other words the matter of the act on is indeed the same but nothing is plainer than that actions materially the same may be not only different but opposite according to the various ends aimed at or principles of morality with which the matter of them is connected otherwise cruel and beneficent actions might be the same as when by the same steps a man designedly saves or ruins his country."

IV

We are thus led to two conclusions as to moral action, which will be familiar to all students of Kant. Many regard them as the chief stumbling blocks in his ethical system. (1) An act is morally right only when willed from the pure motive of duty. If I act as duty would prescribe from love or gratitude or any other motive, the action is not wrong—far from it, but of no *moral* worth. Acts willed *sub ratione boni* are non-moral unless the *bonum* be the rightness of the act itself. We have seen already that acts done for their intrinsic rightness are, for theoretical reflexion, morally good. Thus, while there is no conceivable practical situation that may not call for moral action, and so-called trivial acts are often pregnant with grave moral import, much of human conduct, and of human conduct that is valuable, does in fact fall outside the moral field. Beyond the life of *praxis* for *praxis*' sake is the life of *theoria*, and this also inspires *praxis*. Acts done from spontaneous affection may even be of higher value than acts of duty done for duty's sake. Different practical situations call for action from different motives. We shall speak later on of the life inspired by desire for the good. In so far as Kant failed to do justice to its claims, his ethical theory is certainly open to criticism. But he was wholly in the right in interpreting human morality as the doing of duty for duty's sake:

(2) The Moral Law is formal. We have here the only answer that can be given to the problem that has vexed us throughout this paper—the problem of objective rightness. Our particular moral judgments, and the general rules of conduct that we derive from them, are fallible and variable. Is there then, we ask, no definable standard which tells us what it is *really* right to do? In other words, is there no possibility of moral *knowledge*? This much, at least, is clear, that it is always right, and absolutely right, to do what we judge to be right. This knowledge is infallible and absolute. It is not tautologous, for what is in each case judged to be right cannot be merely that it is right to do it. But it is merely formal, it throws no light whatever upon what is materially right, upon what it is that we ought to do. Indeed, we have this further knowledge, negative though it be—that any empirical content we may give to the moral command must fail to satisfy the standard of perfect rightness. Such imperfection is intrinsic alike to the agent's moral capacity and to the situation that determines the specific nature of his obligations. No rule that prescribes particular duties can be unconditional or exceptionless. The truth of this apparent paradox, and its bearings on the place of morality in the life of the spirit, will

* See Concluding Note

be considered in the next article. We shall there see how Kant's formalism, so far from proving an objection to his ethical doctrine, is in fact its crowning glory.

CONCLUDING NOTE

The position here adopted, that morality consists in doing duty for duty's sake, carries with it, I believe, two corollaries, neither of which would have been accepted by Kant.

(a) Acts done *sub ratione boni* are as such, *morally* indifferent. That is, they are neither moral nor immoral. Their goodness or badness is not *moral* rightness or wrongness. In so far as consciousness of obligation enters as a subordinate (though vitally important) moment into the life directed towards ideal good, acts done from desire of the good admit of moral characterization. This point will be discussed in a subsequent article. On the other hand, no type of practical situation can be earmarked as lying outside the moral sphere, in any and every case it is possible to act from or counter to the moral motive, and such actions will be moral or immoral. That is to say, no situation is inherently morally indifferent. Bradley's acute discussion of the problem of morally indifferent acts (*Ethical Studies*, ch. vi, pp. 114 ff.) suffers, I think, from his refusal to distinguish between moral action and action *sub ratione boni* (or between these two moments in a single action).

(b) There is a specific desire to do what is right as such. The consciousness of moral obligation is itself, as Price and Sidgwick insisted, a motive. See Price, *Review*, ch. vi, pp. 197-8. "Wherever there is obligation, there is also a motive for action", ch. viii, p. 323. "The perception of right and wrong does excite to action, and is alone a sufficient principle of action", p. 325. "An affection or inclination to rectitude cannot be separated from the view of it." In other words, Reason is practical, not merely in that it gives a law to the will, but itself moves the will to action. This is quite in accordance with the familiar and much abused statement of Aristotle that "mere thinking originates no movement, save when it is thinking for the sake of an end and practical" (*διανοία αὐτὴ οὐθὲν κινεῖ ἀλλ' ἢ ἐνεκά του καὶ πρακτικῇ*—*Eth. Nic.*, 1139, a, 35). Reason as purely speculative furnishes no motive, Reason as practical does. I follow Professor A. E. Taylor (*Contemporary British Philosophy*, II, pp. 286-7) in this interpretation. Thus the desire to do our duty needs no explanation beyond the moral consciousness that arouses it. Once aroused, the desire is general, to do our duty in any and every situation that calls for moral action, and serves as the basis for the determinate desire to do this particular duty.

here and now See also Professor Prichard, *Duty and Interest*, p 27. As Professor Prichard points out, Kant was only prevented from recognizing the existence of this desire by his belief that all desires were for pleasure This is one of many details in Kant's ethics that provoke the exclamation, "If only he had read Butler!"

PHILOSOPHICAL SURVEY

PHILOSOPHY IN FRANCE

CARTESIANA

THE source and inspiration of French "eclecticism" in the first half of last century was historical: its immediate purpose, the reconstitution of philosophical doctrines of the past; its deeper though remoter effects, the formation of a tradition which insisted on reinterpretation as an indispensable preliminary to further construction. And it is largely a result of this that we to-day find commonplace the declaration "A peculiarity of systems that are epoch-making is that their influence should extend beyond their own generation, and that they should prepare, as it were in secret, the thought that is to come." So far as fuller and comparative scholarship have been applied to the elucidation of Cartesian philosophy and science, the results appear to fall into three groups. First, largely a result of the impetus of Cousin's teaching at the École Normale, there is the ample story of the development and modifications of Cartesianism in Bouillier's *Histoire*, and the *Cartésianisme* of Bordas Demoulin. Later in the century, after the reaction against Cousin, come the invaluable study of Lard, insisting on the greater importance of Descartes' methodology and physics and the priority of the latter over his metaphysics and the elegant monograph of Fouillée stressing the "voluntarist" tendencies in Descartes. After all this, and much minor work, one might have supposed that every detail of the philosopher's system had been exposed and properly placed, that every shred of evidence for or against any thesis of importance had been adduced. But the activity of Cartesian students in our own times shows that such completeness has not yet been attained. A group of scholars, of whom the best known is Professor Etienne Gilson, are now attempting to trace and establish more exactly the relations between Cartesianism and the Scholastic tradition. Professor Gilson did not consider his task, begun well before the war, one of 'reconstruction' so much as to reinstate Descartes's work in its own historical setting. Historians of philosophy have persisted in representing it out of any such setting. According to them, with the coming of Cartesianism, "philosophy grew a new skin," and the 'Cognat' had once for all marked off scholastic from modern philosophy, the rupture with the past had become complete. This M. Gilson seriously doubted. The hypothesis was specially unpalatable when we recall that in the sixteenth century philosophy was anything but "emancipated" from the tutelage of theology, that Descartes's teachers at La Flèche were all professional theologians, as were most of his friends and correspondents later, and that he had composed his *Principles* as a résumé of his philosophy for use in the Jesuit colleges. Freudenthal had spoken in similar terms in his Spinozistic studies. He had pointed out the falsity of conceiving Cartesianism as radically detached from all anterior philosophies, and, while admitting that absolute novelty might be claimed for the physics, denied it to the Cartesian psychology, epistemology, ethics, or metaphysics, these being "full of elements" borrowed from Scholasticism.

Evidently then, before committing himself to any view on the extent of such influence, Professor Gilson's first task was to collect all traces and signs of any possible influence, and thus he did in his valuable *Index Scolastico-Cartésien*, published in 1913, an exhaustive compilation of expressions and conceptions which had passed from scholastic philosophy into the texts of Descartes. Such a collection in itself, of course, constitutes no evidence of Descartes's acceptance of Scholastic doctrine, but it did provide material for provisional hypotheses and further investigation of particular doctrines.

The first positive results from this procedure were published in *La Liberté chez Descartes et la Théologie*, in 1913. In this he concludes that there is no one doctrine of Freedom in Descartes. His conception of divine freedom and the radical distinction between mind and body are genuinely original and "new" products, but the theory of human freedom is neither original nor deducible from the rest of the system. As developed in the *Fourth Meditation* it is a mass of borrowings from Thomism and Augustinism, there is nothing new in it beyond the order in which it is stated. And, M. Gilson concludes, Descartes does not transform conceptions he takes over from traditional sources except when obliged to do so in order to make his physics square with the theology commonly received.

In the *Études de Philosophie Médiévale* of 1921, Professor Gilson is able to propose the more arresting hypothesis that Modern Philosophy began in the thirteenth and not in the seventeenth century, that it is Thomas Aquinas and not Descartes who is its real inaugurator. What is characteristic of the modern period, though implicit in thirteenth-century tendencies, is not, however, wholly contained in St. Thomas. He is properly the "father" because he is the first Western philosopher whose thought is subservient to neither dogma nor system. In his own times Thomas appears as the continuer of Arabian and Jewish speculation, in relation to modern times he is "the first link in the chain" which connects us with Greek and Oriental thought. And it is one of Descartes's serious defects to have tried to weld his physics and metaphysics into a unitary system without having first submitted the theses of scholastic metaphysics that he borrowed to a sufficiently thorough criticism. It is by this too hasty attempt that the unfinished state of his doctrine of innate ideas must be explained. Further, seduced by the clearness and distinctness of mathematical propositions and the elegance of deductive reasoning, he assigns to mathematics a regulative function in all knowledge, overlooking the difficulties that were bound to arise when they were applied to the interpretation of concrete nature. Consequently we find him (*Regula II*) considering experience nothing but a source of errors, and urging the certainty of mathematics to consist for the most part in their independence of experience or experiment. Later, once at grips with the difficulties occasioned by the application of deduction to the detail of concrete phenomena, Descartes comes to see that if there is no demonstration without a purely rational explanation of the facts, no more is there a demonstration without an experimental proof of the explanation. So rich in possibilities of explanation however, is the Cartesian system that factual obstruction never disturbs it, and for this very reason Cartesian physics, so fresh in conception, is nevertheless really indebted to scholastic physics after all.

For what further reasons and in what further detail Professor Gilson is able to carry out this new line of interpretation remains to be seen in his new work which, I understand is on the eve of publication, the *Études sur le rôle de la pensée médiévale dans la formation du système cartésien*.

That the philosophy of Descartes is penetrated with scholastic teaching

is made still more clear in Professor Gilson's brilliant commentary on the text of the *Discourse on Method*,¹ by far the finest of the many editions of that famous preface. No previous edition even indicates, let alone elucidates, with anything approaching such fullness, the very various sorts of difficulty raised by the text. It is an indispensable apparatus for any future interpretation of Descartes's philosophy, or for an exact discussion of any problem in it. The text of the *Discourse*, occupying 78 pages, is beautifully produced in large, clear type. In the 400 pages of commentary and annotation that follow in smaller type, the text is examined line by line, and in places even phrase by phrase and word by word, so that the thirty lines of the textual page receive anything from one to fourteen pages of commentary. But here it is possible to point out only some of the more illuminating notes. M. Gilson has some excellent things to say on what Descartes means by "method," "analysis" (both "of the ancients" and "of the geometers"), "clearness and distinctness," "those objects which are simplest and easiest to know," the *verités de foi* and their relation to our understanding, scepticism and the Sceptics, the *Cogito*, substance, "essence or nature," idea in its several senses, perfection, creation, and mind. Especially good are the six pages on existence—"being comprised in" the idea of a perfect being and those on "reason and sense," the possibility of immortality, the Cartesian proofs of God's existence, their relation to, and essential difference from, the Thomist proofs, and their starting points (*viz.* for Thomas, with sensible object, for Descartes, with the existence of "thought"). Valuable, too, are the elucidations of "substantial forms," and "forms or qualities," their application to the mind-body problem, and M. Gilson's point that Descartes's use of the Thomist terms, *union substantielle* and *forme substantielle* of the soul, results from no carelessness in expression; that *l'union substantielle* of mind and matter is necessary to explain the appearance of "confused idea" or sensation. M. Gilson also produces an interesting ground for rejecting the charge of circularity commonly alleged against the Cartesian system. He urges that according to Descartes, what God's existence guarantees for us is not the evidence, the truth of the 'matter' of our reasoning, but the genuineness of the successive *recollections* of our past steps within a continuous deductive argument.

Contributions of a quite different order which illuminate some of the detail of Cartesian "mathematism" and its methodological sources have been offered by Professor Brunschvicg. He complains² that a distinction of capital importance for Cartesian methodology is usually passed over unnoticed in discussions on Descartes's "revolution" and his *Universal Mathematics*. Our views on them are likely to be very different, according as they are formed from a study of the *Règles* or from studying the *Géométrie*. The former shows an extension of the mathematical method to all general problems of cosmology, the latter is restricted to a departmental reform within the domain of pure mathematics alone—in a word, the reduction of geometrical problems to algebraical ones. Both reforms proceed from the same inspiration, of course, and are connected. All the same, they should be sharply distinguished, for the first is a reform of physics by mathematics, in which nothing is borrowed from the technique of the new geometry, whilst the latter is an 'internal' reform or reconstruction which pure mathematics attempts simply in its own behalf. The confusion of the two has often made it impossible to

¹ René Descartes, *Discours de la Méthode. Texte et Commentaire*. Par Etienne GILSON. Paris Vrin 1925. Pp. xvi + 494. Deuxième édition 1930. Fr. 42.

² LÉON BRUNSCHVICG, *Les Étapes de la Philosophie mathématique*. Troisième édition. Paris Félix Alcan 1929. Pp. 591. Fr. 60.

form a clear and detailed idea of what "Universal Mathematics" are, and in what this part of the "revolution" consists. What accounts for the confusion, M. Brunschvicg suggests, is that both the *Regulae* and the *Geométrie* are at bottom concerned with our notions of space. Now Space in Descartes's physics is a very different matter from Space in Descartes's geometry. In the physics, the reduction of quality to quantity consists in retaining from sensible phenomena only those characters that can be measured by the help of the dimensions of space. In the geometry, on the other hand, spatial figures appear as kinds of quality (*sortes de qualités*), to be reduced to the purely abstract and intellectual forms of quantity, *i.e.* to the degrees of the equation. Thus, the *Principles* are "a geometer's physics," the *Geométrie* an algebraist's geometry, and Descartes's mathematical philosophy that of a geometer. From the common ground of geometry, Descartes advances in two directions: generalizing Euclidean science in such a way as to reduce mechanics, physics, and even biology, to it, "intellectualizing" Euclidean science so as to reduce it to algebra.

Professor Brunschvicg makes the point of his contention clearer in his article, *Mathématique et Métaphysique chez Descartes*,¹ which is a critical commentary on Gilson's edition of the *Discourse*. It is to the period between the composition of the *Regulae* (about 1629) and publication of the *Discourse* (1637) that Descartes's theory of Method gets clearly worked out, and clarified in consequence of the distinction between *mathématique pure*, or algebraic analysis, and *mathématique universelle*, or, roughly, mathematical physics. The space of geometry appears, about 1629, as an indispensable support for the realism of the universal mathematic, the space of analytical geometry is, in 1637, a simple support for the idealism of the pure mathematic. The analytic method of pure mathematics is carried over into metaphysics, but here it is exercised not merely on possible existents like mathematical entities but actual ones, contingent or necessary, like the *res cogitans* or *Deus*. M. Brunschvicg denies the propriety of calling the "ontological" argument *ontological*, and of identifying it with Anselm's, and maintains that Kant's criticism of it is irrelevant. Descartes does not demonstrate God's existence syllogistically, the implication of existence by the idea of God is not a particular instance of a more general principle at all, but an implication directly intuited, to be compared with the intuition of self as at once existent and thinking. "And the physical world whose existence God guarantees" is that described by the truths of mathematical physics and not that perceived by the senses.

Descartes's attitude to Religion still provides inexhaustible interest for French historians of Cartesianism. Its connection with the philosophy itself is indirect, of course, and most who have summed up on the issue have been content to regard it so, as an extra philosophical topic. Milhaud, for instance, finds a discussion of Descartes's "sincerity" a convenient introduction to his minute examination of Cartesian mathematics and optics. But two recent writers, MM. Henri Gouhier² and Maxime Leroy, have conceived it as the single purpose of their extensive researches.

For many years the traditional view was, approximately, that of Baillet. Descartes a first biographer, namely, that the philosopher was first and last a Christian apologist. Unanimity in the acceptance of this view was disturbed

¹ *Revue de Métaphysique et de Morale*, 34^e Année, No. 3, Juillet-Septembre, 1927.

² HENRI GOUCHIER, "La Pensée religieuse de Descartes," *Études de Philosophie Médiévale* Paris VIII 1924 Pp. 328 1r 30.

by historians of philosophy in the nineteenth century. They emphasize his rationalism, and, M. Gouhier thinks, were on the whole "less concerned with the reconstruction of Descartes's thought than with finding in him a precursor of their own." The justly admired *Life* by Adam (joint-editor with Tannery of the authoritative edition of Descartes's works) has "systematically 'de-christianized'" its subject by urging, for instance, that Descartes's "affirmations of respect for the religion of his country, however sincere they may be, should not mislead us. In his time those who leaned most towards scepticism in word and thought none the less showed themselves Christians and Catholics in their actions like everybody else, and the philosophical scepticism taught by a Charron or a La Mothe le Vayer is a Christian scepticism." The declaration, "I defend the cause of God," not infrequent in Descartes's mouth, amounts to very little, according to Adam, "he is playing a double game—a sort of comedy." But if so, M. Gouhier pertinently asks, What possible significance can the whole Cartesian metaphysics have? If its purpose is not to demonstrate the existence of God and the immortality of the soul, what then does Descartes suppose himself to be doing? Why did he compose the *Meditations*?

M. Gouhier is dissatisfied with all recent pronouncements on the puzzle (those of Adam, Liard, Espinas, and Blanchet), and turns to exploring the field anew and exploiting it in his own manner. And the conclusion he reaches appears to be, briefly, that the attribution of no single purpose does justice to Descartes's life, for it is really a succession of different interests and of varying attitudes towards religion. He was dominated by no single aim, but by various aims at different times, particular interests in pure mathematics, in physics, in metaphysics, and in theology (for in 1628, while in Holland, he intended composing a work on theology). M. Gouhier seems to refrain from committing himself to any positive pronouncement on Descartes's final and considered judgment on religion, and to suggest that probably Descartes himself had none, that he was indefinite on the matter.

This moderate and plausible conclusion of M. Gouhier stands as a mean to the "extreme right" view of M. Espinas, and to the "extreme left" one of M. Leroy. The late Professor Espinas (better known as a sociologist and author of *Les Sociétés animales*) represents Descartes as consumed throughout his life with a zeal for the Church's defence and seeking to play a leading part in a counter reform, while M. Leroy depicts "the real Descartes" as a "friend of atheists," "burying himself in the chimeras of alchemy and Rose crucisme, contending against the Jesuits with all the vigour of a Pascal, and seeking to create a new sect." *Quot homines, tot sententiae!* But M. Leroy certainly advances his opinion with verve and originality. Why, he asks, do Descartes's biographers not allow full weight in their psychological portraiture to his friendships with heretics and free thinkers, which, by their duration and closeness, reveal at least a moral affinity, a congruence of aims, that otherwise can hardly be gathered from his writings? Descartes knew how to disguise his thought and choose his language so as to deceive even the acutest. This suggestion is supported by frequent reference to the *Correspondence* (e.g. "the truth must be veiled", "now that I am no longer to be only a spectator of the world, but am to appear an actor upon its stage, I wear a mask", and his refusal to place his signature to a work so that he "may be ever free to disavow it"). Cunning and prudence, then,

¹ A. ESPINAS *Descartes et la Morale* Paris: Éditions Bossard, 1925. Two volumes. Pp. 252 + 204. Fr. 60.

² M. LEROY, *Descartes, le Philosophe au masque* Paris: Rieder, 1929. Two volumes. Pp. 200 + 189. Fr. 36.

recommended themselves to him—he who could have seen Vanini burned at Toulouse, who knew Gassendi to have stopped his publications against Aristotle for fear of the Sorbonne, who knew how Galileo had been obliged to retract his theory that the earth revolves. The suggestion is, then, that Descartes's philosophical writings are a quite untrustworthy guide to his real thoughts on religious matters, that he persistently disguised his opinions, and systematically gulled his Catholic friends Mersenne, Mesland, Chanut, and Clerseher. This theme M. Leroy develops in a most interesting way, and supports by a judicious selection of evidence. The success of the undertaking must be estimated by his readers, each for himself. One thing is certain: either of the extreme views of Espinas or Leroy must face some very 'awkward' facts, which cannot well be explained away. On the whole, I incline to think M. Gouhier's interpretation the most probable, M. Leroy's perhaps a more interesting one, very plausible in some parts, but in its entirety less probable, and that of M. Espinas quite improbable. One doubts whether Leroy's portrait of the precursor of the modern world is not, after all, over-modernized. His correspondence with Freud (pp. 88-91) on the interpretation of Descartes's three dreams of November 10, 1619, is amusing, and perhaps more so M. Leroy's ingenuous admission why Freud could not explain them—'his method entailing an interrogation of the patient'!

A word in conclusion on the essay of the late M. Gaston Sortais, the third volume of whose *Histoire de la philosophie moderne, depuis Bacon jusqu'à Leibniz*, is shortly to appear. Twenty-five years' study devoted almost exclusively to Descartes and Cartesianism lends authority to the detailed historical and biographical information in his latest brochure. The first chapter discusses the reception Descartes's scientific work found among the Jesuits, twenty pages follow on the two central and friendly figures of Vatiér and Mesland; a third chapter on André and Malebranche's supporters, and a fourth on eight little known opponents of Cartesianism. The erudition is impressive, though the work is only likely to interest specialists in the history of philosophy.

More useful for the general reader is the informative chapter in Professor Bréhier's *History*. Its seventeen sections build up for us a full and composite impression of the character of Cartesianism. It is not limited to the usual exposition of Descartes alone, but considers the amplifications, completions and criticisms of Gennep, Clauberg, Digby, de la Forge, de Cordemoy, Régis and Huet, and is as good a survey of Cartesianism as exists within the compass of eighty pages.

S. V. KEELING

¹ G. SORTAIS. *Le Cartésianisme chez les Jésuites français au XVII^e et au XVIII^e siècle*. Archives de Philosophie vol. 11 cahier 3. Paris: Beauchesne 1929. Pp. 109.

² E. BRÉHIER. *Histoire de la Philosophie*. Tome II. La Philosophie Moderne, I. Le Dix-Septième Siècle. Paris: Alcan 1929. Pp. 314. Fr. 20.

PHILOSOPHY IN GERMANY

SUMMARY This survey deals with (i) Contemporary [German] Philosophy, vol. vii, by several contributors, (ii) The Machine-Theory of Life, by Julius Schnitz, (iii) Bernard Bolzano, by Heinrich Fels, (iv) The Theory of Classes, by Adolf Fraenkel, (v) An Abstract of Logic, by Rudolf Carnap

The preface to the seventh volume of *Contemporary Philosophy*¹ points out that as the number of volumes in this series increases, the reader becomes able to classify the contributing philosophers into different schools. And, although each individual speaks primarily for himself, this grouping occurs quite naturally when the contributors are considered in relation to each other. The present volume contains contributions from BRUNO BAUCH, the transcendental idealist, and OSKAR KRAUS who shares Brentano's empirical bias. AGOSTINO GENELLI discusses neo-scholasticism in Italy, and suggests comparisons with the German Thomist, Gutberlet. The remaining contributors are ANEL HÄGERSTRÖM, the Swede and ALBERT SCHWEITZER, of whose individuality there can be no doubt. The aim of each philosopher is not only to indicate the nature of his philosophy, but also to give some account of his life. We thus get a glimpse of his philosophical history—of what has affected him and of the stages through which he has passed.

BAUCH was drawn to Kant at the very beginning of his career. Kant, he says, has interested and influenced him more than any other past philosopher, and one of Bauch's earliest writings discussed the similarity between Kant and Luther in their treatment of ethical and religious questions. His chief work on Kant was published in 1917, and he describes it as "indeed a history, but a history in the service of critical idealism." He has not been affected by Hegel, but, as his main purpose has been to develop Kant's philosophy, it has naturally happened that their views in some respects coincide. His principal contribution to the development of critical idealism is *Truth, Value, and Reality*, which deals with a large number of problems whose beginnings are to be found in Kant, Hegel, or Lotze. Bauch believes that these problems are imprudently neglected by contemporary philosophers, and that even the neo-Kantians' treatment of them suffers from *Psychologismus*. One problem is that of "the relation of factual judgments to logical judgments," and, like his other problems, it demands, he thinks, a thorough reconsideration of the nature of concepts. He is hostile to the view that concepts are the products of abstraction. He describes the generality of a concept as "the totality consisting of all conditions of particularization." Bauch's later work, *The Idea*, has been surveyed in an earlier number of this *Journal*. It contains a criticism of the distinction between subsistence and existence. Bauch thinks that the notion of subsistent entities states, but does not solve, a problem.

KRAUS, of Prague, stresses his close relations to Brentano. He early became engrossed in ethical questions, especially that of free-will, and his perplexities were first diminished by Brentano in *The Source of Moral Knowledge*. The influence which then began has persisted ever since. Kraus is now engaged, with Kastel, in editing a complete edition of Brentano's works which is to include much hitherto unpublished material. Several volumes have already been published by Felix Meiner, but there are more

¹ *Philosophie der Gegenwart in Selbstdarstellungen, Band VII*. Edited by RAYMOND SCHMIDT. Leipzig: Felix Meiner, 1929. Price R.M. 12 (linen) and R.M. 8.50.

to come Kraus's contribution to *Contemporary Philosophy* abounds in references to Brentano, and especially to his championship of empirical methods in philosophy and his opposition to mysticism and system building. He also describes an important change in Brentano's views. The latter began by believing in the reality of subsistent as well as existent entities, but he ended, Kraus says, by freeing philosophy from "the 2,000-year-old fiction of Platonic ideas, ideal essences and the like. According to his latter view, every object of thought exists, and every proposition which seems to be about something non-existent can be analysed into a proposition about something which exists. Nevertheless Brentano's earlier view has fallen on very fertile ground in the persons of Meinong and Husserl."

Kraus has published several books on Bentham. In one of these—on international politics—Bentham is the hero and Bacon the villain. In ethics Kraus denies the reality of "an independent world of values," and distinguishes among evaluations and preferences between those which are self-evidently justifiable and those which are incompatible with them. He also distinguishes emotional from intellectual evaluation and holds that the validity of the latter depends on the justifiability of the former. He thinks that the 'universality,' 'absoluteness,' and 'objectivity' of values is sufficiently guaranteed by the justifiability—the correctness or appropriateness—of emotional evaluations. It is the appropriateness of such evaluations to their objects which is primary. Although the objects are often called valuable, value does not belong to them, and they cannot be ranked in an unchangeable order. The 'majesty of truth' for example, is not such that the most insignificant bit of knowledge is preferable to the largest sum of sensual pleasures. It is only if we are offered a choice which involves the complete renunciation of either knowledge or sensual pleasure that we should always choose to renounce the latter. Choice of the best our action can produce is the only justifiable choice. Kraus is an uncompromising determinist. He believes that the necessity of an act of will is quite compatible with its justifiability. The freedom which moral responsibility requires is not freedom from causality, but the freedom to do what one wills. Kraus also has interesting things to say about guilt, punishment, and many other things. In his brief reference to *Weltanschauung* he remarks that whereas the atheist must be a pessimist for whom "not to be born is best," the agnostic should be a practical optimist, retaining his chance of an infinite good by living as if there were a God.

SCHWEITZER's contribution is of special biographical interest. Schweitzer is the author of books on theology and music which have been translated into many languages, he is an organist of international fame, and he is a medical missionary among African negroes. His exceptional vitality is clearly communicated to the reader. He tells how his work on the Gospels developed from problems suggested by *St. Matthew*, x-xi. He believes that to solve these and many other problems in the Gospels we must hold that Jesus was dominated by the messianic creed of late Judaism. According to Schweitzer, Jesus was convinced that the natural world would end and that he would then be transformed into the Messiah, and if we deny that Jesus held these beliefs, we have no right to believe that he existed. As the general pre-messianic upheaval which Jesus expected did not occur, he came to believe that his own suffering and death were to be substituted for it, and his dying words were elicited by the fact that in dying he was not transformed.

Schweitzer's writings on the philosophy of culture arose from his realization of the present absence of culture and from his subsequent search for a remedy.

Culture, he maintains, depends on belief in the value of practical activity. We can have culture only if we are enthusiastic about life. Life is pessimistic enough to believe that any attempt to found culture on knowledge must fail. To think of the world as it is leads to despair and to the decay of culture—as is happening now. The central fact for the development of culture is volition. Our will to live endows life with the value which thought denies it. Schweitzer is among those philosophers for whom the good is that which preserves or furthers life and the bad that which destroys or impedes it.

JULIUS SCHULTZ first published *The Machine-Theory of Life*¹ twenty years ago. He has now published a second edition, so much revised as to make it practically a new book. It presents an interesting argument for the mechanistic theory—an argument which rests on a philosophical basis and applies certain scientific theorems to biological facts. It is prolific in allusions to scientific discoveries and hypotheses and provides an extensive bibliography.

The mechanistic theory of life is described as the view which explains all vital phenomena in physico-chemical terms. Vitalism, on the other hand, regards vital process as purposive and as controlled by a force which is analogous to will and inherent in the organism. Thus according to the mechanistic theory the ordered character of vital activity is determined by purely natural laws. But Schultz regards it as crass superstition to believe that this order can have arisen by pure chance out of chaos. If order be found among phenomena subject only to natural laws then order must have existed in whatever preceded and produced these phenomena.

Schultz holds that the issue between mechanism and vitalism cannot be decided by science. As far as science is concerned, the biologist may be either a mechanist or a vitalist with equal success. His scientific researches will be quite unaffected by his decision. The issue must be decided by philosophy and Schultz thinks that philosophically, the mechanistic theory is the more satisfactory. Philosophy seeks complete comprehension. A change is comprehensible only if we can assign to it a sufficient cause, and only physical and chemical causes are sufficient. The influence of powers analogous to will on a material system is incomprehensible. The vitalist has no right to believe as he sometimes does believe, in a stringent though super-mechanical necessity, for if the vitalists' *entelechy* is to be explanatory at all, its operations must be free. Freedom is the central dogma of vitalism. The vitalist must not substitute a blindly working psychical for a blindly working physical cause. But although Schultz holds that, on philosophical grounds, mechanism is more satisfactory than vitalism, he also holds that philosophy cannot prove that the mechanistic theory is true. Indeed, he makes the surprising statement that no philosophical proposition is true because none can be proved.

Having chosen to be a mechanist, Schultz proceeds to describe certain beliefs—or, as he calls them, "theorems"—which the mechanist must accept if he would explain vital phenomena. These theorems are necessary only to the mechanist; they may be disregarded by everyone else. It is unplausible, he thinks, to hold that life could have arisen from inorganic phenomena. It has arisen from mechanical elements, intermediate between vital and inorganic phenomena and these elements have neither beginning nor end. Using Verworn's expression, he calls them *Biogene*. They do not possess the typical properties of organisms, but they can produce organisms by their

¹ *Die Maschinen-theorie des Lebens*. Leipzig: Felix Meiner 1929. Pp. viii + 194. Price R.M. 9.50 (linen) and R.M. 7.80.

physico chemical interaction They can for example be differentiated by environmental influences and they are subject to tropisms Schultz applies the theory of biogenes to biological facts in considerable detail

The book concludes with a metaphysical view which Schultz regards as being implied by the mechanistic theory He is a Darwinian but as has been said he does not believe that natural selection first began among chaotic phenomena He holds that an order which is produced by purely natural laws must certainly have an ordered cause We must suppose pre-arranged conditions of such a kind that natural selection though working quite blindly can yet achieve an orderly result The order of the world is maintained by the interaction of chains of causes This interaction is not a matter of chance but a matter of arrangement The universe is itself an eternal machine But it is a machine which works according to a cosmic plan and there could not have been this cosmic plan without an Eternal Mind

Bernard Bolzano by HEINRICH FELS is evidence of the interest which is now being taken in Bolzano's philosophy Fels regards him as the first to found logic on a basis free from psychology and he frequently quotes the high praise which is given him by such eminent logicians as Husserl Honecker and Akos von Pauler Bolzano was born at Prague in 1781 and lived at a time when German philosophy was dominated by a mystical and romantic idealism when the discipline of science and logic was rejected in favour of imaginative excursions into *Weltanschauung* His philosophy was therefore almost unknown to his contemporaries for it aimed at clarity and precision Bolzano regarded the analysis of concepts as the philosopher's first duty and he ridiculed the tendency to regard superficial resemblance as identity His philosophy received its due recognition only when the interest in clear analysis was revived Fels believes however that the relations between Bolzano Brentano and Husserl have been misdescribed It has been said for example that Bolzano begat Brentano and Brentano begat Husserl It has been thought that Husserl's phenomenology derives from Bolzano But although Brentano was one of the few philosophers of the nineteenth century who were acquainted with Bolzano's work their views were altogether different Brentano worked on empirical psychological lines Bolzano on a *priori* mathematical lines And Husserl and Brentano though personal friends were philosophical opponents There is to be sure much in common between the logic of Bolzano and that of Husserl but this is regarded by Fels as due to similarity of their aims and methods not to direct influence And there is no phenomenology in Bolzano's philosophy

Bolzano considered mathematics to be the ideal science to which logic and metaphysics should conform Consequently his philosophical method was a *priori* His main work was in logic which he regards as the theory of science (*Wissenschaftslehre*), and curiously defines as the totality of rules determining how the different sciences are to be distinguished from each other The notion of the proposition in itself which has since become very familiar is at the root of his logic The proposition in itself is to be distinguished from the proposition thought of or expressed It is that constituent in our thought or expression of a proposition which is independent of any thought or expression It may be true or false and is therefore transcendent from a truth in itself Bolzano also distinguishes between a Scatation in itself and a presentation thought of or sensed And he of the *F. A. Bolzano sein Leben und sein Werk* Leipzig Felix Meiner 1929 Pp x + 109

draws a further distinction between a presentation and its object. A presentation may have one or more objects or none. An object is that which the presentation presents: it may or may not be an existent.

Fels also briefly expounds Bolzano's views on other philosophical subjects. His ethical views include the belief that ought is a simple concept which applies to certain activities. The fundamental moral law is *a priori* but not formal: among actions we can perform we ought to choose that which will produce the greatest happiness, however it be distributed.

The first edition of ADOLF FRAENKEL'S *Introduction to the Theory of Classes* was written at the front during the war. It grew out of the author's efforts to lighten the hours of non-mathematical comrades. It was intended as a short introduction to what Fraenkel describes as "one of the greatest achievements of the human mind." And it required from the reader no previous mathematical or philosophical knowledge but merely enough interest and patience to take him along paths of abstract thought. The second edition, which was published in 1933, closely resembled the first. In the present, third edition the first part, which describes the theory as developed by Cantor, is still much as it was, but Fraenkel has greatly increased the second part, which deals with the ultimate foundations of the theory, and thereby with the basic principles of mathematics. Fraenkel's account of the theory of classes is therefore of much more than merely mathematical interest, for it is concerned with what may be called the philosophy of mathematics. It is of great interest to non-mathematical as well as mathematical readers and is excellently written.

The theory of classes, as Fraenkel says, is the first systematic treatment of infinite quantities, and it attributes to infinite quantities a mathematical importance as great as that of finite quantities. It led to fundamental developments in other branches of mathematics: in the theory of functions, in the theory of numbers, and in geometry. It led to a clearer understanding of many mathematical concepts. According to Hilbert, it is "the most fertile and powerful branch of mathematical knowledge." It is described by Fraenkel as that branch which is the purest product of human reason, and it is ranked with the theory of relativity and the quantum theory. Its history may be briefly summarized. It was introduced and developed by Georg Cantor, 1845-1918, and met with considerable hostility from most mathematicians because of their aversion from infinite quantities. By the eighteen nineties the theory had achieved such brilliant results that hostility to it had almost disappeared. At the turn of the century it was discovered with astonishment that the theory involved a number of antinomies, some of which depended on Cantor's definition of a class. Hence the anxiety of mathematicians "so to establish the theory's foundations that the antinomies would be eliminated without impairing the value of the theory." They are now divided into three groups, which propose three quite different solutions. Fraenkel thinks that each group succeeds in establishing the theory, but one of them—the Intuitionists—at a considerable sacrifice. But it is not merely by their views on the theory of classes that the three groups are differentiated. There are, says Fraenkel, three quite different mathematical schools, and an acute mathematical crisis.

The first school with which Fraenkel deals is that of the Intuitionists, and in particular of Brouwer, the most radical among them. Intuitionism arose in response to quite different problems from that of the theory of

classes, and its attitude to this theory is only incidental. To the intuitionist a mathematical object exists if it can be constructed by thought from intuited elements. Mere consistency is relatively unimportant. Mathematical propositions, which assert the existence of an object but contain no reference to its construction, and so no insight into its nature, are not only valueless, but actually non-significant. And many mathematical propositions are of this type—as for example, those which assert that the non-existence of some object is inconsistent with certain recognized principles. On this question the intuitionists are diametrically opposed to the advocates of the axiomatic method whom they refer to as formalists. Brouwer sharply distinguishes between mathematics which consists of mathematical constructions and mathematical speech. Mathematics is entirely independent of logic and the latter is simply the science of mathematical expression. He maintains that the logical law of excluded-middle does not apply to mathematical constructions, and that mathematicians have been wrong in regarding all mathematical problems as soluble. Intuitionism thus narrows the sphere of mathematics, and rejects as worthless much of classical mathematics. And many important propositions in the theory of classes are rejected although part of the theory is established and all antinomies removed. There are however, moderate as well as radical intuitionists and even the formalists have come to accept the belief in intuition as the ultimate basis of mathematics.

In contrast to Intuitionism each of the other two mathematical schools has grown up solely through the effort to safeguard the theory of classes. The purpose of each has been to eliminate as little as possible, and Fraenkel believes that provided certain qualifications are made, each has succeeded in guaranteeing the theory. The first of these schools is that of Russell and Whitehead in which mathematics is derived from logic and the antinomies are excluded by the theory of types. The second is that of the axiomatic method whose foremost exponent is Hilbert. This method begins by examining the concepts and methods of some already existing science and selecting the simplest. It then formulates their presuppositions or 'axioms'. The axiomatic system of the science consists only of these axioms and what is deducible from them. The axioms must not themselves include any proposition which is deducible from axioms, and they must be sufficiently numerous to make the system exhaustive. An important feature of the method is its rejection of all definition. There must be no attempt to define the concepts used. All knowledge of them, except what is supplied by the axioms, must be eliminated. We may of course have independent knowledge of the concepts, and we are free to regard them in any way which is compatible with their nature as revealed in the axioms. Hilbert believes that the axiomatic method can and should be applied to every science. Now the main concepts involved in the theory of classes are those of 'class' and 'member of'. And the relevant propositions in the axiomatic system of the theory either express relations between a class and its members or assert the existence of certain classes. There is no attempt to define what is meant by 'class' or 'member of'. The fundamental difficulty of the axiomatic method lies in the validity of the axioms. They are not empirically guaranteed, and they are not self-evident. They are accepted simply for the sake of what can be deduced from them, and their ultimate security lies in the consistency of the whole system. But this consistency is difficult to ensure. A system may appear consistent, but at length reveal an inconsistency. Hence the question of consistency, so unimportant to Brouwer, is supreme for Hilbert. He has developed a new science, metamathematics, to deal with it, and it is

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in this science that the value of intuition is recognized. Fraenkel ends his account of these three schools by indicating his preference for that of Russell.

RUDOLF CARNAP'S *Abstract of Logic*¹ admirably satisfies a definite need. It presents the symbolic logic of *Principia Mathematica* together with certain amendments in a very handy form. The author says in his preface that his intention is not so much to present a theory as to teach a method. He wishes to give a useful instrument to anyone concerned with the exact analysis of propositions and concepts in any branch of science or philosophy.

HELEN KNIGHT

Abriß der Logistik Vienna: Julius Springer 1932 Pp. 114 Price about RM. 10

NEW BOOKS

The Quest for Certainty, a Study of the Relation of Knowledge and Action
By JOHN DEWEY Gifford Lectures 1929 (London George Allen & Unwin Ltd 1929 Pp 302 Price 10s 6d)

The thesis of this book is that the distinction between thinking and acting is the root of all philosophical and much other evil. Chapter I, significantly entitled "Escape from Peril," tells us how the separation began. Primitive man was always in trouble, and there are two ways of meeting troubles: one may change one's own mental attitude, or one may change the troublesome object. The first way, that of religion and magic, has always been thought superior, according to Professor Dewey, the second way, that of the practical arts, has always been distrusted and looked down upon. Mankind, it seems, has always felt that a change of heart is what really matters, and that outward action is only important as a sign of the inward state. And philosophers and religious teachers have done their best to encourage this belief. The general result has been that Reality has come to be divided into two spheres. On the one side stands action, the merely practical arts and crafts: the body, the material world, the changeable, the particular, these are at best necessary evils, perhaps illusions. On the other side are thinking, the non-material thinking subject, the unchangeable and non-material objects of thought—the One, the universals, the "eternal values." These are intrinsically good and absolutely real. In Western Europe this bifurcation was fixed once for all by the double influence of Greek philosophy and of the Catholic Church. Though challenged at the Renaissance, and more and more gravely since, by the progress of experimental science, it still persists, and our consciousness of its inadequacy, combined with our inability to find anything better, is the real source of the intellectual and emotional *malaise* of the present day.

This sketch of the history of Civilization (including the history of Philosophy) which occupies Mr. Dewey's first three chapters makes fascinating reading; but at the end one rubs one's eyes and asks, Is it not all a little too simple? Mr. Dewey's philosophers and theologians do seem rather like those "Priests and Kings" whom eighteenth century writers regarded as the authors of all human corruption. And a teacher of Philosophy may perhaps be forgiven for wondering whether philosophers can really have had so much success as all that! Others may ask whether the history of the Roman Empire shows many signs of an undue exaltation of theory above practice, and whether this unconquerable aversion from action, this thirst for contemplation of the eternal, is really so very marked in the modern Englishman or American.

But however this may be, there is no doubt that the preference or prejudice which Mr. Dewey speaks of has been and is held by a certain number of people. And even if it has never been actually held by anyone, it is interesting to ask what conclusions follow if we reject the distinction between thinking and acting upon which it is based. This is the question which occupies the bulk of Mr. Dewey's book. The general result, in his view, is that a number of obstinate problems are solved, or (in some cases) shown to be pseudo-problems.

For instance, the dispute between the Rationalists and Empiricists can now be settled. The Rationalist is perfectly right in saying that there are

concepts which are not derived from *sense-experience*. But the Empiricist is right in saying that they are derived from *experience*, only he failed to see that the experience in question is the experience of doing things—especially from that sort of doing which reaches its most perfect form in scientific experiment. In Physics, such terms as "length" and "mass" are defined by reference to *operations*. And such ideas are not only operational they are also, so to say, *prospective*, their validity being tested by observation of consequences. (Does Mr. Dewey mean the validity of their particular applications, e.g. the validity of the proposition that this body is five inches long and weighs two ounces?) On the other hand, the ideas of which the old Empiricists spoke were *retrospective*—their validity was tested by reference to the past sense-data from which they were supposed to be abstracted. (This may do for Mill, but it scarcely suits Hume's account of causation and of substantial identity.)

Thus Experimental Empiricism or Operational Apriorism is obviously attractive. Its defect is that Mr. Dewey does not clearly tell us what an *operation* is. A being who had never in some however rudimentary way measured things (e.g. by eye) or weighed things (e.g. by lifting them) would very likely be ignorant of the meaning of such terms as 'length' and 'mass', we may even admit, going yet deeper, that a being who could not act would not have had the basic notions of *object* and *causal connexion*. But does this prove very much? Intelligence is still intelligence even when it is so to speak, incorporated in action. 'Action' does not mean the mere causing of changes, as Mr. Dewey will be the first to admit—it means the intelligent causing of them. Intelligence is an essential part of all action which really is action. Thus Mr. Dewey has done nothing to refute the theory that it is thinking which enables us (as Kant put it) to refer our sense presentations to objects—to pass from mere sensing to consciousness of the physical world. Indeed, we might turn the tables upon Mr. Dewey and ask him how measuring is possible unless we *already* have the idea of length, and how action of any sort is possible unless we already have the idea of a world of objects exemplifying causal laws. Mere fiddling with rulers is not measuring, and merely moving one's limbs about is not action. At least we must have in our minds the question, "how long is this?" or (in general) "what will this thing do?" i.e. "in what substances will this substance cause what sort of changes," before we can measure or act at all, and we cannot ask a question without understanding the meanings of its terms. The less we understand them, the less we can describe ourselves as measuring or acting, and if we don't understand them at all, then we are not measuring or acting at all—we are merely moving or changing. All that Mr. Dewey has shown then is that "categorical thinking" is often or usually incorporated in action, he has not shown that it is not thinking, and therefore he has not refuted a certain sort of Rationalism—unless, indeed, we are to say that thinking also is experienced, in which case everyone is an Empiricist and always has been.

I think that Mr. Dewey would also have difficulty concerning what used to be called *innate ideas*, a matter which he does not discuss. Empiricists have always held that no ideas are innate, and probably Mr. Dewey would agree. But he will have to allow, I think, that there are *innate practical tendencies*, and are not these just as puzzling as innate ideas? Indeed, if we are right in holding that practice includes intelligence as an essential part, innate practical tendencies are innate ideas, though they are also something more.

Perhaps the most interesting and the most puzzling part of Mr. Dewey's book is his doctrine concerning the Physical World and the Mind's relation

to it Mr Dewey seems to agree with Bradley that the ultimately real (as idealists call it) is just experience "Experience," indeed, or as Mr Dewey sometimes calls it, 'having,' is to be taken very widely. For instance, Mr Dewey is very severe on his predecessors for thinking that only the knowable is real. In the first place, we are told to change our conception of knowing. For the reason of philosophical tradition, which was a contemplation of the unchangeable and the non-empirical, we must substitute *intelligence*, which is itself a part of Nature, and is directed to anticipating and controlling the course of natural changes. And we must exchange the hope of absolute certainty for the merely probable but still practically trustworthy beliefs which experimental science yields us. (After all, that bird is in our hand, so why cast longing eyes upon the bush?) When knowledge has been thus reduced to what we may call the higher cunning, it is not surprising that we are forbidden to equate the knowable with the real. For "the knowable" will now mean the sort of entities which are taken into account by the artilleryman, the stock breeder, or the plumber—in short, it will be equivalent to 'the technical' and it is obvious that this does not cover the whole of the real. Not only does each type of technician ignore most of the qualities of the objects with which he has to do, while he wholly neglects most objects, even if we take all of them together, so that they may supplement each other's deficiencies, we find that they all ignore the *individuality* of the object and consider it only as an *instance* of this or that type. It is obvious then that what we may call the "technical object" is never anything self-subsistent and the 'scientific object' will be equally abstract, since science in Mr Dewey's view is nothing but a sort of generalized technology, *τέχνη τῶν τεχνῶν*. He is therefore obviously right in maintaining that the world of electrons and protons and other scientific objects is not *another* world distinct from the world of every day (still less is it the "reality" of which common sense things are more or less illusory "appearances"), but is the *same* world studied from a particular point of view, to suppose it distinct, he says, is like supposing that the number given to a convict is a second man alongside of and more real than the first. Thus Mr Dewey is able to contend that the real contains not only secondary but even tertiary qualities (like beauty or awe inspiringness), and that emotion provides as genuine, though not as useful a revelation of the notion of things, as scientific intelligence. In short, real is to be defined not in terms of knowing but in terms of experiencing or 'having' which includes very much more than knowing in the narrow sense which Mr Dewey has given to that term. (If knowing had been extended to include *acquaintance* as well as understanding—and why should it not?—the result of the discussion would obviously have been very different.)

Here certain further questions arise. First we ask, Is Mr Dewey an idealist? Does he think that whatever is real is actually 'had'? Would he agree with Bradley that "the real is nothing but experience," and that "to be real, or even barely to exist, must be to fall within sentence"? I fancy that he would. But if so, he can only escape solipsism by holding that there is an all-embracing having within which the finite "haver" himself falls. And I think that this is what he does hold. It is true that he often prefers the *tough-minded* term Nature to the idealistic term Experience. But, as we have seen, he means by "Nature" much more than a physicist would mean by it. He insists too that Nature is not contemplated by mind as an external spectacle, but contains mind and thought as an operative element within it, in one

* *Appearance and Reality*, pp. 145 and 144 (1st Edition).

place he even compares mind to a new dimension by order of which natural changes occur in a directed instead of an aimless way. And I think it is clear that what he calls mind is not itself the haver but (as in Bradley) is part of what is had. For mind is defined as response to the doubtful as such (p. 214) and it is obvious that having could not be so defined nor indeed defined at all since not only the doubtful but the clear also (Mr Dewey thinks that these are objectively distinct) must be said to be had and not only the thing responded to but also the responding.

In the concluding part of the book Mr Dewey claims that this doctrine and not Kant's constitutes the true Copernican revolution in Philosophy. And the reuniting of thought with action and of both with experience entails if properly carried through a kind of practical revolution too. For all our present troubles according to Mr Dewey come from a divorce between our scientific ideas and our ideas of value. We have been reluctant to admit that this world or (if you will) that experience is the only sphere in which values can be realized. We have neglected to readjust our ideas of value in accordance with this admission. We still insist or half insist on setting our hearts upon things that be above. The result is that we use our scientific technique to make ourselves unhappy or at best to supply us with comforts and pleasures which we don't really want instead of setting to work to multiply and to distribute those goods which are genuine and achievable. Once we adopt what has been called the standpoint of experience and stick to it refusing to make gulfs between mind and Nature between the scientific object and the valuable object we can make life really worth living both for ourselves and for others but we cannot reach that standpoint until we give up the view that thought is different from and superior to practical activity: this then is the source of all our troubles.

I have not the space nor the competence to do justice to these latter doctrines. It seems to me that no one who has had even a slight first hand experience of Religion (whether in its theistic form or in some other) is at all likely to accept them as they stand and I will venture to predict that the thus worldliness of which Mr Dewey is so able an exponent has almost had its day—indeed it already has a certain curiously antique flavour. Nor can I even refer to a number of other subjects which Mr Dewey discusses but I hope I may have done enough to indicate the wide scope and the great suggestiveness of this book.

H. H. PRICE

Plato and his Contemporaries A study of fourth-century life and thought
By G. C. Field M.A. B.Sc. Professor of Philosophy in the University
of Bristol (London Methuen & Co. Ltd. 1930 Pp. xi + 242
Price 12s. 6d. net)

Professor Field has given us an admirable survey of a realm of inquiry on which little guidance has hitherto been available for the general public. His book might well be entitled *Prolegomena to the study of the Platonic dialogues*. Interest in Plato is growing day by day far beyond the limits of academically trained scholars and excellent translations and interpretations of his writings are easily accessible to the English reader. It is otherwise with the background of Plato's life and thought. To understand his political *milieu* it is necessary to consult large histories where the fortunes of the Greek city states are narrated with no special relevance to Plato's views on politics while the intellectual *milieu* can only be appreciated after a study of the original sources or at least of treatises composed by specialists for specialists. Now at last the salient facts of Plato's political and philosophical

environment have been gathered together in a convenient form by a scholar of undoubted competence who combines a first hand knowledge of the sources with a sound judgment and a clear appreciation of the speculative problems to which he is furnishing an introduction. The style is easy and clear and the author while stating his own views unhesitatingly and with precision avoids all appearance of dogmatism and never fails to indicate the difficulties which provoke divergence of interpretation. He has not shrunk from including much *e.g.* on the chronology of the dialogues and the significance of the *Polis* which is familiar to all students of Greek civilization but which if left unsaid would greatly lessen the value of the book for the general reader. Indeed in his effort to appeal to a wider public he often disguises the extent of his own researches. The three Appendices one on Plato's Letters the other two (reprinted from the *Classical Quarterly*) on the statements of Aristotle and of post Aristotelean writers as to the share of Socrates and Plato in the history of the theory of Ideas testify to the thoroughness and independence of judgment with which he has studied the materials. While acknowledging his indebtedness to Burnet and Taylor he has freely canvassed their conclusions on these and other aspects of the Socratic problem.

The first part of the volume entitled Plato's life and work largely traverses ground where there is little scope for originality. Needless to say Professor Field regards the bulk of the Platonic Letters as genuine all that is except the First the Thirteenth and at any rate portions of the Second. He stresses the difficulty of finding a possible date for this Second Letter and suggests (p. 261) that certain passages (312 D to 313 C and perhaps to 314 C) may have been interpolated by the younger Dionysius in a genuine letter sent after the philosopher's death to the Academy. On the chronology of the dialogues he adopts the theory of three groups of which the central consists of *Republic* (except Book I) *Phaedrus* *Theaetetus* and *Parmenides* dating from about 375 to 368 B.C. Whether the *Republic* was written so long after the institution of the Academy seems questionable there is surely stronger reason than Professor Field admits for Burnet's view that the course of higher studies in Book VII represents the programme of Plato's intentions for the newly founded University. The picture of the tyrant in Books VIII and IX again was surely written when the first visit to Syracuse was fresh in Plato's memory. Professor Field considers at some length the purpose with which the dialogues were written. He decisively rejects the view that the issues discussed were those of a past generation relevant to the date of the dramatic setting of the dialogues. On the other hand we must not look to them for a complete exposition of Plato's philosophy. They are occasional essays in which Plato sets forth his own views on problems of living interest for his own time. There is evidence writes Professor Field (p. 60) that many of Plato's philosophical views were the subject of vigorous discussion beyond the bounds of his own school. The author is surely right in this opinion. We may add that Plato like Aristotle and every great philosopher was intensely concerned to define his own speculative position in relation to other current philosophical doctrines.

In the second part (Chapters VI-IX) on the moral and political background Professor Field deals with conditions of life in the Greek city state of the fourth and fifth centuries and especially of the ethical problems which they provoked in the minds of the Athenian *intelligentsia*. He points the contrast between the Greek habit of reasoning out explicit principles of public conduct and the English habit of letting action be determined by circumstances as they arise. Hence the subordination in Greek thought on morals of the idea of right (*δ κα ορθή*) to that of good (*ἀγαθόν*) = object of desire so that what for us is a relatively simple problem of the conflict of duty and inclination

presented itself to them in a complex form, as the opposition of two divergent objects of desire. How can a man *want* to do both things at the same time? "The contradiction in his ordinary assumptions is thus obvious from the first. . . If the whole problem of conduct is simply a question of attaining our purposes it is a very natural step to go on to the assumption that, if we only know what to do to get what we want we shall at once proceed to do it. And it would appear to follow that action which is not good can only be the result of mistake or ignorance" (pp. 104-5). All this is very clearly put, as is also the significance of the *φύσις-νόμος* problem raised by the Sophists. Professor Field however seems (p. 91) to underestimate the revolutionary character of Plato's projects of political reform. Plato's mind moved, it is true, within the sphere of the Hellenic *Polis*; yet he was not merely a political reformer but a religious missionary with his gaze fixed on an otherworldly goal and a profound sense of the corruption of human nature and, as such, could not but be sensible of the necessity for a radical conversion both of the individual soul and of the institutions of actual society.

The last five chapters on "the literary and philosophical background," are perhaps the most illuminating in the book. The account of Antisthenes in the twelfth chapter is of special interest. He is not to be regarded as the founder of an ethical school: the Cynic order originated with Diogenes. His logical doctrines are discussed in some detail. Professor Field agrees with the Provost of Oriel in holding that the reference in Aristotle's *Metaphysics* (1043 b 24) to "the Antisthenians and similarly uneducated people" applies to Antisthenes himself. The view there stated that besides simple substances, which are indefinable and admit only of ostensive designation, there are compounds which can be defined by means of their constituents and that this is the only legitimate form of predication is far removed from the Nominalist position which has frequently been ascribed to Antisthenes. Nominalism was as much an anachronism in antiquity as was the Conceptualism so brusquely swept aside by Plato in the *Parmenides*. Nor had the theory anything in common with the subjectivist Protagoreanism criticized in the *Theaetetus*. Antisthenes was, in fact, an uncompromising Realist. "Indeed, most of his difficulties arise from his failure to make allowance for the subjective element in thinking, which make error and differences in opinion possible" (p. 169). If we are to indulge in modern analogies we seem, as we follow Professor Field's exposition, to catch an echo of Dr. Moore engaged in criticism of Bosanquet and Bradley.

It remains to speak of the "Socratic problem," which is discussed at various stages throughout the volume especially in Chapters IV and X, and in the two last Appendices. Professor Field considers the question definitely from the Platonic angle. His views represent a *via media* between the Ultramontanist Socratism of Burnet and Taylor and the somewhat and conservatism of their opponents. They are based on the position already noted—that the dialogues are throughout the expression of Plato's own philosophical convictions. But this does not imply what many critics of the "biographical theory" have maintained that we can "simply substitute Plato for Socrates in the dialogues, put down everything he says, and present the total result as the Platonic philosophy" (p. 54). In the earlier period Plato's aim was to defend his master's memory in the *most effective* way open to him, by persuading men to think and live as he had done (p. 52). Hence he set himself both to draw out the implications of Socrates' actual teaching letting "the discussions go on wherever the wind of the argument carried them" and at the same time to apply the Socratic method to *fresh matter*. It is this continuity of method that is signified by the predominance of Socrates as chief speaker in the

dialogues. When the literary form was changed in the later writings and Socrates ceased to bear the principal part it was not so much that Plato was now occupied with topics which Socrates never talked about as that he realized that he was discussing subjects to which the Socratic method was not really appropriate (p. 53). This is sound sense though we may question whether method and content can ever be severed in any philosophy worth the name. Professor Field has much that is interesting to say about the treatment of Socrates in Xenophon and the rest of the Socratic literature. He concludes that we should naturally expect to find all degrees of historical accuracy in the Socratic writings (p. 137). He accepts the Platonic presentation of Socrates' personality as substantially historical but doubts how far the dialogues can be taken as representing the philosophical views which he actually held (p. 237). He hardly faces the difficulty of passages where the account of Socrates' personality and his philosophical opinions are inextricably interlocked as in the famous autobiographical digression in the *Phædo*. We are told that Plato's normal representation of Socrates as purely critical in his attitude is not easily reconcilable with the ascription to him in the *Phædo* of a definite philosophical theory (the theory of Ideas) which he is said to be constantly putting forward. But if we are to take account at all of the views ascribed to Socrates in the dialogues what ground is there for thus discriminating between the views in one passage and those in others? And what about the constructive metaphysical teaching placed in his mouth in the *Symposium*?

* This brings us to the doctrine of Ideas to which Professor Field devotes special attention in the Appendices. It is here that he decisively parts company with the Burnet-Taylor hypothesis. We think that in two points at least he has made good his case: (1) that it is unreasonable to suppose that Plato never referred in talk or lectures in the Academy to the historical origins of the doctrine and that Aristotle must therefore have drawn all his information from the dialogues; and (2) that Proclus's testimony in favour of the Socratic origin cannot be traced back to any tradition in the Academy earlier than the second century A.D. Professor Field concludes (p. 211) that Socrates never raised the question of the independent existence of universals. He places that is to say the natural interpretation on Aristotle's statements in the *Metaphysics*. But he leaves two serious difficulties unanswered: (1) How is the view that Plato was the first to raise the metaphysical issue to be reconciled with his repeated assumption that the doctrine of Ideas was perfectly familiar to his hearers? If it had been his original discovery would he have introduced it thus casually into the dialogues without justificatory argument? (2) Graver still is the difficulty of explaining the influence of Socrates' teaching if his contribution to thought is confined to the search for ethical definitions. Professor Field (p. 9) compares Socrates to Dr. Johnson admitting that Socrates' life was on a loftier intellectual and moral plane. But the comparison is instructive and suggests an answer to the difficulty before us. The source of Johnson's unique influence on his generation lay not in his learning certainly nor in his reasoned philosophy but rather in the temper of religious mysticism which pervaded and illuminated his whole life and conversation. It gave him a power of penetrating insight which probed the depths of human nature and enabled him to exercise a compelling influence over the minds and hearts of men. So was it with Socrates. He may not have formulated a metaphysical theory with the reasoned explicitness that we find in Plato but the hold on the supersensible was there. What else could have been the ground of his insistence on 'care for the soul' as the mission of his later years? And how else are we to interpret the witness of Alcibiades in the *Symposium*? If this is

not historical, nothing that Plato tells us of Socrates is historical. It is strange, too, that Professor Field never once refers to the portrait of Socrates in the *Clouds*. True, it refers to an epoch antecedent to his contact with Plato, but it furnishes, as Professor Taylor has amply shown, strong confirmation of the historicity of the Socrates of the dialogues.

Enough has been said to commend Professor Field's book to all serious students of Plato. We trust that he will follow up his *Prolegomena* with a volume dealing directly with the Platonic philosophy.

W. G. DE BURGH

The Foundations of Geometry and Induction By JEAN NICOD. Prefaces by BERTRAND RUSSELL and ANDRÉ LALANDE (London: Kegan Paul, Trench, Trübner & Co., Ltd. 1929. Pp. 286. Price 16s.)

Anyone on first reading these two essays might be tempted to underrate them and to wonder at the opinion of the author expressed by Mr. Bertrand Russell and M. Lalande in their prefaces, but further study would show him his mistake, and convince him that the death of their author at the age of thirty has been a most serious loss to modern philosophy. It is true that many of M. Nicod's fundamental ideas must have occurred to former readers of Russell, Whitehead and Poincaré and this gives his book especially the first essay the appearance of being merely a set of ingenious exercises on these writers but in reality the difference between M. Nicod's elaboration and analysis of these ideas and the form in which they occur to the ordinary reader, is comparable to the difference between a set of working drawings of an engine embodying an important invention and the first suggestion of that invention thrown out in conversation.

Another, and an inexcusable, cause for the disappointment felt on first reading the book is the badness of the translation. Not only does it abound in the stilted bad English of the ordinary hack translator but arguments that require all the readers' powers to follow become so confused as to be almost unintelligible. He is continually forced to quit the question "What does M. Nicod mean?" in order to wonder "What can he have said?"

Of the two essays the first is the longer and more valuable, I shall merely give some account of it, and leave those interested in the subject to make their own acquaintance with M. Nicod's methods, to which it is impossible to do full justice in an abstract. The second though ingenious and containing valuable ideas, is marred by what seem to be definite errors, so that a fuller discussion will be necessary.

GEOMETRY IN THE SENSIBLE WORLD

In this treatise M. Nicod is concerned with geometry not as a logical structure but in its relations with the physical world, as a branch of applied mathematics, not of pure. He sets forth the position of a student of pure geometry thus: "I do not know what the author of this treatise calls a point, nor *a fortiori* what he calls three points in a straight line, nor two couples of points separated by a constant distance. But I know that if these three things really have, as he asserts, the properties that the axioms and postulates state, they cannot fail to have at the same time all the properties that the theorems state." It is true that we have at least one set of logically determined entities, triads of natural numbers which we can take to be points in this sense, we can then give purely logical definitions of "points in a straight line," and "constant distance," and obtain the properties required. But we are still shut up in the region of pure logic, and how are

we to pass to sensible experience and to physics? One important step in this direction has been made by Russell and Whitehead in their definitions of a point in terms of inclusion of volumes, M Nicod has tried to go further.

It will be remembered that Poincaré prophesied that, although any set of phenomena can be described in terms of any geometry by means of an appropriate set of physical concepts, Euclidean geometry will always be retained, since it is the simplest. But, as M. Nicod points out, the simplicity of the geometry may be outweighed by the complexity of the resulting physics. The essence of the theory of relativity is that there is no body in existence entitled to prescribe space and time for other bodies, and in order to maintain this simple principle it has been found necessary to depart from Euclidean geometry. Moreover, the same geometry may be built up on different sets of fundamental ideas and the resulting constructions will differ in simplicity. For example it has been noticed as a blot on Euclid that he employs the two ideas of distance and of displacement (or superposition) without investigating their relation. It is possible to take either as fundamental and define the other in terms of it, but to assume the properties of both without showing that they are concordant, as Euclid does, is unsound. Also there are other less familiar concepts which might be taken as fundamental. M. Nicod instances 'sphericity,' the relation of any five points on a sphere. Starting from this, we can define planes, straight lines, distances and so forth but distance, instead of being a simple concept, will be a somewhat complicated function of sphericity. It follows that different sets of entities with different relations may yield the same geometry, or, as M. Nicod puts it 'one set of axioms will have a number of different solutions' and if these entities are different sets of perceived entities, the fact that they all satisfy the same geometry will be an empirical discovery.

M. Nicod illustrates this theory by examples of various imaginary beings with perceptions at once exceedingly acute and exceedingly limited, and shows what sorts of geometry could be constructed from the experience of each one. His conceptions are ingenious and amusing. An animal with a perfect discrimination and remembrance of sounds, but with no other sense, that passes its life running up and down piano keyboards of unusual types, a creature with a perfect perception of every movement and attitude of its own but no external perceptions except such as will mark one particular position and so on. The ingenuity with which he develops these ideas can only be appreciated by reading him.

It may be objected that these examples are too remote from reality to give any information as to how our ideas of geometry have actually been derived, but such criticism is beside the mark. M. Nicod's object is to estimate the contributions that different features of our experience, succession general, or as he calls it 'global,' similarity, particular similarities, such as colour resemblance, and local similarities i.e. similarities of local relation to our bodies such as perception by the same portion of the retina, are capable of making to geometry. For this purpose he considers them separately, or in different combinations, and supposes them directly discriminated to a degree of which we have no experience. Thus the animal on the keyboards could, by means of succession and "global similarity," construct a science corresponding to 'analysis situs,' but could go no further. For example, it could distinguish an I, a Y, and an O, though it would not have our visual intuition of them, but could not tell an I from an S, or a Y from an E. He thus hopes to provide material which will be useful in tracing the effects of these types of experience in the circumstances in which they actually occur. His work is therefore preliminary to

any attack on the problem of the connection of our actual perceptions with geometry, and represents something which must be done in one form or another before any progress can be made with these questions.

THE LOGICAL PROBLEM OF INDUCTION

This portion of M. Nicod's book deals with one of the standing puzzles of philosophy, namely, how is it possible to learn from experience at all? We all agree that it is possible, but there is no generally accepted theory of the process. The question is really twofold. First, how can we know that there are any relations which hold between unknown events as well as known, and are unaffected by the unknown events becoming known? and secondly, assuming such relations to exist, how can we learn what they are?

This is merely a rough statement of the problem, but it expresses a real distinction, the neglect of which has caused much confusion. Many of the objections which have been made to Mill's treatment of induction arise from supposing that he is dealing with the first question when he is really concerned with the second. M. Nicod gives no excuse for such a mistake. He confines himself definitely to the second question and to a small portion of it, and is careful to enunciate the axioms he assumes.

Fundamental to his system is the distinction between "primary inductions" and "secondary inductions." In "primary inductions" the premises are given entirely by direct observation, or, at least, do not depend on prior inductions, "secondary inductions" include premises which are the result of previous induction. According to M. Nicod the probability of any secondary induction cannot be greater than that of the primary inductions involved. He derives this conclusion from the following principle, "the conclusion of an inference extracts at most no more certainty or probability than the most uncertain of its premises." If this were true, scientific and practical reasoning would be in a bad way, for it would make corroboration of one argument or set of observations by another impossible. M. Nicod does not attempt to prove this principle, and it is of some interest to try and guess how he came by it. He seems to identify it with another principle which he enunciates thus: "starting from premises which, taken together, have a probability $p \dots$ a probable inference which would confer on its conclusion the probability q if its premises were certain will confer on its conclusion the probability pq ." This is much more plausible, but it is not the same as his former principle, and, moreover, is not generally true. M. Nicod has probably been misled by the old-fashioned phraseology to which he clings, but, as Mr. Braithwaite points out, his second principle is only true when both the premises not only support the conclusion but are necessary to it, so that if either is false the conclusion is so likewise. There is, however, a difficulty in Mr. Braithwaite's exposure of the fallacy in Keynes' notation, for though, if x is the conclusion, y the intermediate premise, and h our knowledge generally, $x/h = y/h \cdot x/yh$, so that unless $y/xh = 1$, $x/h > y/h \cdot x/yh$, yet x/h would appear to be the expression appropriate to the probability of x in view of h before y was thought of, so that the argument does not show the change in the probability of x due to the discovery of y . This is a real difficulty in Keynes' notation and may have helped to mislead M. Nicod and perhaps others also.

But although primary induction has not the importance M. Nicod attributes to it, it is none the less fundamental. The probability of a secondary induction may be greater, for all he has shown, than that of any of the primary

* *Mind*, 1925, p. 482

inductions involved, but it certainly depends on them, so that his investigation of primary induction is worth study.

He begins by distinguishing between the two propositions "it is probable that all X is A ," and "any X is probably A ." If for "probable" we substitute "certain," these two propositions are equivalent, but as long as our probability falls short of certainty they are different. We may, indeed, say that the two propositions tend to become the same as the probability increases but this implies that certainty is the same as maximum probability, which M. Nicod denies, and in any case we must distinguish them as long as we remain in the domain of probability. Keynes also distinguishes the two forms and says, "Perhaps our generalizations should always run 'It is probable that any given ϕ is f ' rather than 'It is probable that all ϕ are f '". M. Nicod, however, chooses the other alternative, and confines himself to the question, How, and with what degree of probability, can we prove that "All X is A "? or, in other words that X is a sufficient condition for A , or, as he puts it, " X entails A "?

He first deals with what he calls "induction by invalidation." Assuming that A must have some one sufficient condition, some one "cause," then if we suppose that all the characters of the instances examined are known, and that the only one common to all besides A is X , all laws except " X entails A " are excluded, and we are entitled to conclude that " X entails A " with whatever degree of probability we attach to our assumption that A has some one cause. If, however, we assume that A may have more than one sufficient condition, so that X and Y may each entail A , or if X may enter into combination with other characters to give a character in which it does not obviously appear, as when two coloured lights unite to yield a colour indistinguishable by eye from a spectroscopically pure colour, our reasoning fails and further assumptions are necessary. M. Nicod suggests one which may be briefly stated thus. The probability that the number of independent causes of A is greater than n tends to zero as n tends to infinity. By the help of this principle he shows that with a sufficient number of instances we can perform our elimination so as to give the required result to any required degree of probability.

But we never know all the characters of an instance completely, and M. Nicod proceeds to consider how this affects our conclusions. He quotes Keynes' argument to the effect that an accumulation of instances not known to differ increases the probability of the elimination of unknown characters, but finally decides that probable elimination of this sort cannot yield a conclusion of more than a moderate degree of probability. The argument is difficult to follow and is much obscured by the translation, which seems here to be particularly bad but the conclusion seems to be fairly established, though somewhat weakened by the mistake referred to above. Is it not, however, what might have been expected? What propositions are there of the type ' X entails A ' which we confidently believe to be true without any exception and our belief in which depends merely on a primary induction? With one important class of cases, the causation of particulars by particulars Bertrand Russell has dealt in *Our Knowledge of the External World* and elsewhere and it is unnecessary to add anything to his exposition. The laws in which we put a higher degree of confidence, such as the differential equations of physics, are not of the form " X entails A ." They may rest ultimately on a number of inductions of this type, but, as has been pointed out, such inductions may corroborate each other so as to yield a probability higher than that of any one of them. The theory of such corroboration is

of great importance, but it lies outside M Nicod's plan. Some may say that they feel as much confidence in the conclusions of everyday experience as in any law of physics and that these are of the type required. But is our confidence simply the result of induction? "Fire burns." Undoubtedly, but do we not to a certain extent mean merely that anything that did not burn would not be called fire so that our confidence would be a mixture of belief in induction and acquiescence in a tautology? It would be possible to redefine our terms so as to banish this element of tautology, but I think that when this was done we should find our confidence in the statement as true without exception appreciably diminished. It must be remembered that M Nicod's reasoning applies only to arguments designed to prove that "all X is A," not that "any X is A."

We will now pass to the other branch of M Nicod's theory of induction—induction by confirmation. This is the process depending on the multiplication theorem for probability expounded in Chapter XX of Keynes' *Treatise on Probability*. According to it multiplication of instances of a law having some initial probability can, on certain assumptions, raise this probability to any required degree. M Nicod points out that this theorem does not depend explicitly on any assumption as to the determinism of the character considered, i.e. we may by this method be able to increase the probability of 'X entails A' to any extent without assuming that A must have some cause. Mr Braithwaite (*loc cit*) considers that any theorem of probability assumes determinism, and it is worth noticing that when M Nicod assumes determinism he does not use the multiplication theorem, and conversely. The point is important, for if Mr Braithwaite is right, Eddington's philosophical conclusions from the application of probability in the quantum theory could not be sustained, but even if I were able to determine it, the discussion would take us far beyond a criticism of M Nicod.

M Nicod points out, however, that Keynes' proof only applies to the probability of the law generally, not to the probability of its verification in a particular instance as yet unknown. We have here a further example of the distinction between 'It is probable that all X is A,' and 'Any X is probably A.' This objection would seem to render the whole argument rather futile, but I think the difficulty is really one of notation. It is the same as that pointed out above concerning the expression of the effect on the probability of conclusion produced by a newly discovered argument, as distinct from a newly discovered fact.

M Nicod then deals with Keynes' 'principle of independent variety,' and shows that in the form given it leads to the paradoxical result that past experience could give us no information as to the probable rarity or otherwise of occurrences of different types in the future. For the principle assumes that all occurrences are the result of different combinations of a finite number of independent factors, and, as M Nicod points out, some assumption as to the relative frequencies of occurrence of these factors is also necessary. Once these assumptions have been made they determine the relative frequencies of different types of occurrence and experience will not change our conclusions on this point if the assumptions are to be maintained, this is exactly analogous to the well known theorem that, if a coin is "known to be fair," the occurrence of heads in any number of successive tosses does not affect the probability of heads in the next toss.

I think, however, that the principle can be restated so as to meet this objection. Assume that the number of independent causes is not known, but that the probability that it is n is p_n , where p_n tends to zero as n tends to infinity. Assume also, by the principle of indifference, that the initial

probabilities of these unknown factors are equal. Then after experience the probability that the number of factors is n will be changed and their relative probabilities will also be altered but Keynes' conclusion might still stand. The world would still be the result of a finite number of independent factors and of the number and relative frequencies of such factors we should have probable knowledge derived from experience. The exact nature of the assumptions necessary to validate the argument can only be found by elaborate mathematics but it does not seem likely that they would be unreasonable. It should be noted however that this line of argument implies that the accumulation of indistinguishable instances may be important, as it would give information as to the number and relative frequencies of the independent factors. In this respect M. Nicod would appear to be right as against Keynes.

H. WALLIS CHAPMAN

The Meaning of Beauty: A Theory of Aesthetics By W. T. STACE (London: The Corgi Press Ltd. 1929. Pp. 255. Price 6s.)

Mr. Stace's book on Hegel with its careful analysis of two-thirds of the *Encyclopædia* prepared his readers for the discovery that in æsthetic he adopts a point of view which may in one sense of a much misused word be called Hegelian. Beauty for him is the presence of the concept in perceptible form. So far that is Hegel but Mr. Stace does not by any means adopt the whole Hegelian æsthetic nor indeed does he accept even this one element in it without important modifications. There are he holds three kinds of concept. There are categories like unity which are co-extensive with reality everything in existence being an instance of each category. There are empirical concepts like man of which only certain classes of things are instances. But empirical concepts are of two kinds. Some are perceptual that is they are perceptibly present in the things that exemplify them. Others are non-perceptual that is no amount of mere perceiving will reveal their presence it is only thinking that can reveal it. To this class belong such concepts as (we give his own list) evolution progress harmony goodness civilization law order peace gravitation spirituality. Now concepts may enter into knowledge in either of two ways. They may be free concepts thought in abstraction from their instances in that case they are the objects of scientific or philosophical thought. Or they may be fused with a perceptual field in which case we do not distinguish them from their own instances. For example we look at a man and see him as a man but the concept of man is free only when we ask ourselves what humanity is it is fused with the perceptual field when we form no theory of it but only see it in its instance.

After these explanations we can state the theory. Beauty Mr. Stace tells us is the fusion of an empirical non-perceptual concept with a perceptual field. For example we see a man and see in him an instance of unity the concept is fused in the percept we do not think of unity in abstraction we just see the man as one man. Unity is a category and therefore on this occasion there is no beauty present. We see the same man but see him this time as a man an instance of humanity the concept being fused in the percept, as before. But humanity is a perceptual concept, and therefore again there is no beauty. But thirdly we see the same man as an instance of civilization or goodness once more we must not forget the concept is fused in the percept so completely that no trace of an abstract idea of goodness rises before our mind goodness and the man are one object not two and now the man is beautiful.

The theory is carefully worked out and expounded, and I do not think the above outline misrepresents it. But in addition to the difficulties which the author tries to meet there appear to be others, which, unless they are due to mere failure to understand it, are far more formidable.

In the first place, it all depends, as Mr. Stace himself points out, on the distinction between perceptual and non-perceptual empirical concepts. But this distinction is far from clear. Mr. Stace assigns mathematical concepts to the perceptual class, and this, in his view, explains why it gives us no æsthetic pleasure to recognize such things as the circularity of a circle. But is circularity one of "the abstract ideas of perceived entities"? Do we ever perceive a really circular physical object? I had thought, and still think, that we do not, and for that reason I had supposed, on coming across the distinction in question, that mathematical concepts could be unhesitatingly assigned to the non-empirical class of concept. As it is, the reader feels that he does not know where the line between the two classes ought to be drawn.

But this is not the worst of the difficulty. We are told that, unlike non-perceptual concepts, the other two kinds, categories and empirical perceptual concepts, 'enter implicitly as submerged concepts, into our ordinary acts of perception,' or, as the same idea is alternatively expressed, are "found in perception." It is also explained by the statement that 'to the concepts, house, star, redness and so on, there are directly corresponding percepts.' Presumably percepts 'directly correspond' in the same way to categories like unity, existence, quality. But it is not easy to see how a good man corresponds more directly to the concept of man than to the concept of good. Apparently Mr. Stace holds that we perceive him to be human, but do not perceive him to be good. No doubt I see that he is a man, but I do not see this with my eyes, I see it by an act that is at once looking and thinking. And it is surely by the same kind of act that I see him to be good. In short, I cannot persuade myself that Mr. Stace has made out the distinction between perceptual and non-perceptual concepts, and on going over his text again and again in order to get his meaning more exactly, I find myself always put off by vague phrases. Non-perceptual concepts are said, for instance, to be "the result of intellectual reflection," whereas perceptual concepts are "the abstract idea of perceived entities." But how do things, so distinguished, differ? Is not the abstract idea of a class of perceived entities the "result," in the only sense in which any concept is the result, of intellectual reflection?

But let us waive all these difficulties and assume, for the sake of argument, that the distinction between perceptual and non-perceptual concepts has been satisfactorily established. Another set of difficulties now arises. The beauty of anything, whether natural object or work of art, consists in the fact that a non-perceptual concept is fused with the perception of it. Thus, in looking at a precipice, the concept of "the puniness of man in the face of the overwhelming forces of nature" is fused with the perceptual field, and we get beauty, in the special form of sublimity. Now, it is the artist's business, if he paints the scene, to effect this fusion in his own mind and to make it easier for us, but Mr. Stace explicitly points out that the concept in question does not exist in the artist's mind as an abstraction, and that, if it is put to him in this form by the philosopher, 'he may fail to recognize it as an ingredient of his work,' and "may altogether deny that his work is founded upon it."

How can this be, consistently with the theory? In ordinary perception, according to Mr. Stace, I see a man as a man, the concept man being fused in the percept. In order to do this, I need have no theory of what it is to be a man. But, presumably, I may be expected to use the word man, and to mean

something by it. If, then, I am asked whether I see a man, presumably I can answer (even without holding a theory about it) that I do. If, when I am looking at a man, I am asked this question and answer no, the inference is either that I do not know the meaning of the word or that I am not perceiving the man as a man, but as something else—a system of planes, perhaps, or a Yahoo. Similarly, if the artist is asked whether he sees the precipice as an embodiment of Nature's might, then, if he knows plain English and does so see the precipice, he ought to reply in the affirmative. If the "fusing" of concepts is a phrase with an unambiguous meaning, the artist has no business to disown the concept; he ought to recognize it when it is pointed out, even though it is not his business to theorize about it in the abstract. Either the concept is really working in his mind or it is not. If it is, it is working in the same way in which the concept of man is working in the mind of a person who perceiving a man is conscious that what he perceives is a man, and in that case the artist ought consciously to perceive his object (the precipice) as an instance of the concept, and not to wait for the philosopher to point it out to him, still less contradict the philosopher when he does. If it is not, the whole theory falls to the ground.

And this leads to a further difficulty. If the concepts have so "disappeared in the percepts" that the artist does not even recognize them when they are extricated by the philosopher, how are we to know that the philosopher has extricated the right concept? The artist, we are explicitly told, has no opinion on this question. Nor has the art-critic, for his business is only to have a refined taste in art, not to theorize about it. The philosopher has to do the work quite unaided and uncontrolled. This seems a curious task to lay on the shoulders of philosophy, but philosophers are notoriously capable of anything. We have, however, a right to demand a definite statement of the principles by which the philosopher is to be guided, and Mr. Stace makes no attempt to fulfil this demand. For all he tells us, the philosopher simply drags any non-perceptual concept out of his store, and attaches it to any work of art or natural object. The impression left on a reader's mind is that the selection of a concept for this purpose is altogether arbitrary. "Thus the lily of the valley obviously suggests purity, timidity, modesty, and innocence." "Chords in the base, deep, rich, and profound, give an impression of solemnity and grandeur." Perhaps—but to whom? Not, certainly, to a painter or a musician. To put such suggestions to *them* is like putting a red rag before a bull. The painter will reply that anyone who sees things of this kind in a lily of the valley is looking at it in the frigidly and vulgarly sentimental manner which is most completely opposed to the artist's appreciation of form. The musician, if he can bring himself to be civil to a person who writes base when he means bass, will say that perhaps some bass chords give an impression of that kind, if that is the kind of impression you are looking for, but that for his part he cares for none of these things. What he wants is music. But it is idle for the painter and musician to protest. Mr. Stace has disenfranchised them in advance. If they may reply that, although they have no right to say that concepts are fused in their works, they are surely entitled to say that certain attitudes towards these works are wholly unæsthetic.

It may be admitted that Mr. Stace's analysis often gives a true account of the subject-matter of works of art and beautiful objects generally. In describing the æsthetic effect of a quiet country landscape, he says with eloquence and truth: "instinctively, subconsciously, we contrast the perfect peacefulness of the scene with the rush and hurry of our own lives, the acute conflict of our desires, the feverish passions of our inner nature, the struggle

and pain and battle of existence" It is very true that these feelings and thoughts are intimately connected with the beauty of such landscapes. But what exactly is the connection? For Mr Stace, the scene is beautiful because it "visibly embodies" these thoughts, and the manner of this visible embodiment is the same as the manner in which a man visibly embodies the idea of humanity But the scene, with all the feelings and thoughts which it awakes in us, is only one side of the æsthetic fact It is not beauty, it is only the raw material of beauty In order that there should be beauty itself, there must be, in addition to this subject matter, an activity of mind capable of making this formless welter of experience into a picture—into something "distanced" from the feelings and thoughts of the spectator something having a structure, a rhythm, an organization of its own, something self-contained and self explanatory Then and then only when the mind has found for itself or made for itself an object whose formal structure renders it capable of having significance does beauty arise

Mr Stace might agree, but claim that he has said this already, for he has included order, symmetry, conformity to law and so forth, among the concepts which fused with a percept, may make it beautiful But this is not at all the same thing This is only to include the form among the list of its own possible contents It implies that the form, like any particular content, is a contingent and inessential element in beauty it is, indeed to repeat the old fallacy of the hedonist who trying to reduce questions of morality to questions of pleasure, admits that one of the pleasures at which we may aim is the pleasure of a good conscience And this error explains why Mr. Stace, after borrowing a great part of his æsthetic doctrine from Croce, confesses that he has no idea what Croce means by æsthetic form That confession is what we should expect from a writer who thinks that the "formlessness" of a rock may be the ground of its æsthetic effect upon us Certainly such formlessness—in other words, our failure to look at the rock—may be connected, whether as cause or effect, with emotional perturbations which we may feel in its presence But if the rock is to be beautiful, we must get over these perturbations and look at it, while, if the perturbations are to be beautiful, we must cease merely to feel them and look at *them*—see their shape and structure, their form, just as a student of landscape sees that of the rock

R G COLLINGWOOD,

Five Types of Ethical Theory By C D BROAD, Litt D, FBA (London Kegan Paul, Trench, Trubner & Co, Ltd 1930 Pp xxv + 288 Price 15s)

The five theories of ethics which Dr Broad has selected for discussion are those of Spinoza, Butler, Hume, Kant, and Sidgwick He states very clearly his reasons for making this selection, and his purpose in discussing typical theories He says "In the first place, they [i.e. the five selected moralists] are extremely unlike each other, so that between them they give a very fair idea of the range of possible views on the subject, though they by no means exhaust all the alternatives Secondly, all five authors are thinkers of the highest rank, so that it is reasonable to suppose that the types of ethical theory which they favoured will be worth very serious consideration Since their views differ fundamentally from each other, they cannot all be true in all respects, and it is of course unlikely that any of them contains the whole truth, and nothing but the truth about ethics But it seems likely that each of these great men will have seen some important

aspect of the subject, and that the mistake of each will have been to emphasize this aspect to the exclusion of others which are equally relevant. It appears to me that the best preparation for original work on any philosophic problem is to study the solutions which have been proposed for it by men of genius whose views differ from each other as much as possible. The clash of their opinions may strike a light which will enable us to avoid the mistakes into which they have fallen, and by noticing the strong and weak points of each theory we may discover the direction in which further progress can be made" (pp 1-2). I have quoted this passage in full because it seems to me admirably to reveal the temper of Dr Broad's inquiry. As might be expected from Dr Broad, we are given a careful and detailed discussion of certain fundamental problems in ethics. In the case of each of the authors whom he examines, he is at pains to present the view in the most plausible form in which it may be interpreted. This method certainly conduces to clearness, and is well fitted to reveal distinctions of ethical types. It has, however, the defect of tending to obscure those parts of a philosopher's theory which cannot be rendered plausible in statements that are both concise and clear. Yet the philosopher in question may have attached considerable importance to just those parts of his theory which this method of exposition tends to obscure. This is especially the case with regard to Dr Broad's exposition of Kant, and in a lesser degree with regard to Spinoza. The method is most successful in the cases of Butler, Hume and Sidgwick, no doubt because these three were exceptionally clear thinkers.

Much the greatest amount of space is given to Sidgwick, the discussion of whose theories occupies over a hundred pages, whereas not more than forty pages is given to any of the other four. Kant, indeed, gets only twenty-six pages. This extremely unequal amount of space seems to me to be fully justified in view of the purpose Dr Broad had in writing this book. It is true that Kant's reputation is world wide, whereas Sidgwick's *Methods of Ethics* is scarcely read outside Cambridge. But this difference in their reputation does not correspond to a difference in their value as moral philosophers. On the contrary, I am inclined to agree with Dr Broad in regarding the *Methods of Ethics* as "on the whole the best treatise on moral theory that has ever been written," provided that the emphasis is placed upon "treatise." On the other hand, Kant's contribution to ethical theory seems to me to be usually overrated in comparison with the work of the other four philosophers discussed in this book. Moreover, his contribution to ethics is limited to a single problem, to which Dr Broad does full justice.

In the short concluding chapter Dr Broad gives a sketch of what appear to him to be the main problems of ethics, adding an extremely brief summary of his own tentative conclusions which he formulates under eight heads. The discussion in this chapter is so concise that it would not be possible here to give any summary that would do justice to its merits. Three points may, however, be mentioned. (1) Dr Broad first divides ethical theories into two main classes, which he names respectively Naturalistic theories and Non-Naturalistic theories. These are distinguished by the fact that the former hold that ethical characteristics (viz good bad, right, wrong ought, duty) "can be analysed without remainder into non ethical ones", the latter hold that they cannot. These two broad divisions are further subdivided and illustrated. (2) Dr. Broad examines with great care the problem as to what part is played by reason in ethics. He distinguishes various different questions that have been confused in discussing this problem and then states his own view. His discussion seems to me to be exceptionally clear.

and helpful (3) Both in his treatment of Sidgwick and in this last chapter Dr Broad makes it clear that his own view is that right and good are ethical characteristics. He holds that *right* and *wrong* are relational characteristics denoting 'appropriateness' or 'fittingness' (and the reverse) to a total situation, and that the kind of fittingness is specific and unanalysable. He rejects all forms of Naturalism asserting that "No form of Ethical Naturalism seems to me to be in the least plausible except the psychological form, and I am not acquainted with any definition of ethical concepts in purely psychological terms which seems to me to be satisfactory" (p. 281).

Undoubtedly Dr Broad has written a useful book—all the more useful, perhaps because it is very unlike the usual run of books on ethics. Dr Broad shows no desire to inspire people to act rightly: he concentrates on attempting to aid them to think more clearly. In the concluding words he suggests that the detailed analysis of ethical problems "is quite good fun for those people who like that sort of thing." But it is clear that good fun as it is, the value of such dialectical inquiry is not confined to the providing of amusement. An inability to think clearly with regard to problems of conduct is at least as often the cause of wrongdoing as an indifference to moral obligations once they have been recognized. Those whose duty it is to teach moral philosophy are likely to welcome a book dealing with such 'typical' theories in such a severely logical manner. Those who without being professional philosophers, are yet keenly interested in ethical investigation are bound to find the book stimulating. It may, however, be doubted whether those who have not read the philosophers discussed would not be well advised to read them first, and then turn to Dr Broad for guidance.

L. SUSAN STEBBING

The Problem of Truth University of California Publications Vol. X (Berkeley University of California Press 1928 Pp. 1-264) ¹

The philosophy department in the University of California are to be congratulated on their plan of providing a set of lectures on a definite philosophical problem every session. The treatment of a problem by different thinkers from somewhat different points of view is apt to be illuminating, especially, as is the case with these publications, the philosophers are in touch with each other's work. The discussion of the nature of truth offers a problem of exceptional difficulty, so that it is not altogether surprising if the lectures in the tenth volume hardly reach the level of preceding ones.

The opening lecture is by Professor J. H. Muirhead. He is concerned to point out the nature of the problem and to suggest principles for its solution. His discussion relates to the *meaning*, the *criteria* and the *limitations* of truth. With regard to the first, he asserts that "truth is a quality of our judgments, a quality which our judgments by their very form claim to possess" (p. 6). He considers three criteria of truth: (i) practical working, (ii) correspondence with an external trans-ideal reality, (iii) internal intra-ideal coherence. Professor Muirhead assumes without discussion that these are *criteria* of truth: he nowhere faces the question whether, for example, correspondence may be regarded, *not* as affording a *criterion*, but as being what truth is. He rapidly dismisses the pragmatic criterion and asserts that correspondence in the form of the "copy theory" is dead. He argues that if we attempt to *judge* the correspondence we are thrown back upon coherence. So that these theories must be regarded as supplementary. Finally, he passes to principles for the solution of the problem of truth. There are three such principles: (1) *reality*

¹ The reviewer very much regrets that this review has been unavoidably delayed.

of the truth experience, (2) *internality and ideality of the ultimate criterion*; (3) *attainability of truth*. The first principle seems to be equivalent to "we do in fact assert some propositions that are true." If this be correct, it can hardly be considered that the first principle will aid us in solving the problem of truth. The whole discussion suffers from the use of vague and metaphorical language, so that it is often difficult to see exactly what it is that is being asserted. A more fundamental defect is to be found in Professor Muirhead's failure to apprehend the nature of mathematics. He supposes, for instance, that it would be difficult to say "what number would be apart from the ideas of space and time" (p. 23). This misconception may possibly account for the extraordinary footnote (p. 9), in which Professor Muirhead suggests that "the copy theory" lingers on in Royce's celebrated illustration of truth as a self-representative system. "The difficulty in apprehending Professor Muirhead's view is to see clearly what he means by *judgment*. He obscures this point by his use of metaphors. Those who reject the correspondence theories seem to forget that if Reality be coherent, and if true propositions *correspond* to what is real, then the "system of true propositions" must also be coherent, although they would not owe their truth to their coherence.

The last lecture on "Truth Subsistent and Existential," by Professor W. P. Montague, does not throw sufficient light upon the meaning of "real," although the exact determination of its meaning is crucial for the whole discussion. He says "We may define the 'true' as the '*real*' considered as the object of a possible judgment. Truth is reality viewed from a certain angle, the angle of actual or possible judgment" (p. 248). This definition is said to transform the problem of truth into the problem of reality. The transformation, as stated within the limits of this paper, does not aid in making the nature of the problem precise, nor in indicating its solution. Professor Montague's theory requires for its exposition a greater amount of space than was available to him here. It is to be hoped that he will work this theory out at greater length. Professor G. P. Adams, in his lecture on "Truth, Discourse, and Reality," also appears to transform truth into reality. Thus he says "Truth is, in all literalness, reality itself in the form and perspective of judgment." But he does not attempt to analyse the proposition "This is real," so that his theory remains somewhat obscure. One point in his discussion is of great interest. He insists that "the crucial difficulty in interpreting the nature of erroneous judgments does not arise in the case of propositions which are known to be false" (p. 193). Such propositions are not believed and do not seem to be "genuine judgments." Difficulty arises "only where you have a *bona fide* judgment, one, that is, which claims to be true." In the opinion of the present reviewer this view is certainly correct, but at least two of the other contributors would not be in agreement. Professor Loewenberg, in his lecture on "The Fourfold Root of Truth," maintains that, taken at a certain level of interpretation, a judgment that appears to be nonsensical may be true. Thus he says "My judgment—to take an extreme instance—that a square figure is round, divorced from belief and from the notion to describe an existential situation, is certainly 'true'—it simply refers to the fact that I am aware of the essences 'squareness' and 'roundness' and the relation of 'identity'." (p. 221). Perhaps this statement should not be regarded as denying that propositions that are not believed are not "genuine judgments" but it is difficult to see what other meaning it can have. Professor Loewenberg's discussion of "four kinds" of truth, which he labels respectively, *adverbial*, *adjectival*, *substantial*, and *hyphenated*, is too unclear to be discussed at length in a brief review. Mr. Marhenke also appears to think that the analysis of propositions uttered without belief will throw light upon the nature of error. He is, however, more concerned with the

discussion of non veridical perception than with what he calls "judgmental error" From this point of view his paper has some interest

Professor W R Dennes in 'Practice as a Test of Truth' has written an interesting paper in which he contends that practical working cannot have what is meant by *truth*, nor can it be regarded as a reliable test of truth He raises the question whether our preference for a given scientific theory is not in the end æsthetic rather than practical There seems little doubt that this is so Professor Mackay is concerned with the æsthetic element in science, but he does not succeed in making very clear the relation between 'æsthetic truths' and scientific facts Professor V F Leuzen has written an interesting paper on 'Statistical Truth in Physical Science,' but it is concerned less with truth than with the nature of statistical *laws* in science

Professor S C Pepper's long paper on 'Truth by Continuity' begins by analysing a paper by Professor Morris Cohen The purpose of this analysis seems to be to suggest that if you take similarity seriously you make a joke of time He assumes that we must not make a joke of time and accordingly he denies that there is similarity This leads to the statement 'It has been customary to assume that when we say 'All potatoes are brown,' we are able to make this judgment because the potatoes are similar My suggestion is that the potatoes are similar because we are able to make this judgment' (p 54) Significant reference to identical response is to be substituted for similarity It cannot be said that Professor Pepper has succeeded in making his argument convincing Possibly here again the limitation of space is responsible for the inadequacy of the argument Many of these lectures require to be set in the context of their authors' philosophy lacking this, misunderstanding may be possible

L. SUSAN STEBBING

Identity and Reality By ÉMILE MEYERSON Authorized Translation by Kate Loewenberg Library of Philosophy (London Allen & Unwin Ltd 1930 Pp 495 Price 16s net)

It is an event of no small importance to philosophy that the earliest of M Meyerson's brilliant studies on the character and limits of scientific explanation should at last be available in our own tongue Doubtless some of his admirers would have wished that he had been introduced through his second work *L'Explication dans les Sciences*, the statement of his thought that he himself prefers But the project of a two-volume translation probably dismayed the publishers if not the translator, so we must receive with good grace this substantial substitute, which is certainly more than half the loaf

The central contention in M Meyerson's criticisms is that scientific explanation despite the many material differences of its *explicanda*, exhibits throughout one and the same paradox Explanatory process is an incessant attempt to eliminate the unexplained that which is (either at the moment, or permanently) irrational Wherever explanatory effort is effectual, it is so only at the cost of introducing an irrational somewhere else Some irrationals are such that science can never hope to explain, and, in fact, the existence of some or other irrationals seems to be a condition of the very possibility of any explanation whatever Such is the purport of the main theme, a fuller statement of it, an indication of its epistemological import, its connexions with the concepts of law and cause and the fact of their presupposition in both common sense construction and empirical science these have been already outlined in my article 'Émile Meyerson' in this *Journal* (January 1926)

To turn then to the translation itself, Mrs Loewenberg seems to have succeeded in conveying her author's meaning in intelligible form. Positive errors in translation are few, and the ideas flow for the most part easily. The main object and utility of translation has therefore been secured. The full force of the French, however, is not always made completely evident, in some places the English seems 'pale' beside the more vigorous French, in others it bears that strained quality *qui sent la traduction*. For instance, justice is hardly done to the varying senses of *que*, the French reflexive is too uniformly rendered by the English passive—sometimes where our active would be more natural—and a laudable desire to keep close to the French has led to some awkward substitutions, as when, e.g., *juste* is rendered by 'just' instead of 'correct,' 'right', *assurément* by 'assuredly' rather than 'certainly', *prétendu(e)* by 'pretended' instead of 'so-called' (as in "the pretended 'economy' of nature", p. 316). These are, of course, minor blemishes but they are not infrequent, and there are places in which the meaning is left rather obscure, others where it is somewhat distorted. All the same, the defects are certainly not so serious as to render the translation untrustworthy, and the reader is considerably indebted to Mrs Loewenberg for having undertaken what was clearly an exacting and laborious task. Since some justification for my criticisms is due, I give the following jottings as a fair sample of the points that induced me to propose them—

P. 40 (ten lines from bottom) The translation contradicts the text, for *ne . . . que* restricts two clauses and not merely one. Thus, "cannot be observed if ordinary conditions cease" should read "cannot be observed unless ordinary conditions cease".

P. 293 '*une couleur unie*' is not a "solid colour," but an "even colour," or "a colour of even tone".

P. 298 (line 37), read "since we lack the organ for discerning it," not, 'the organ for understanding it being absent' (There is no question of "understanding" it).

(line 33), *toutes choses se font par des causes intelligibles* "are created by" is unsuitable here, especially in connexion with Leibniz. It is "natural production" not 'creation' that is in question.

P. 300 (line 1 ff), this is no just indication of . . ., should read, "But this is to misunderstand the rôle assigned to the phenomenon in mechanical theories".

P. 310 (line 13 ff), 'they could vary in time' but that would be to suppose a law without any possible reason," should read "they might vary in time", but that would be laying down a law without possibility of proof.

(line 20 ff), "so that there can never be entire persistence, coincidence, complete identity, between antecedent and consequent". This mistranslates '*persistance du tout*,' and the third comma misdirects our attention. It should read 'there can never be persistence of the whole, coincidence, complete identity between antecedent and consequent'.

P. 312 (line 4), "*dégager de sa gangue matérialiste*" is to do something more radical than "rid it of its materialist flavour". Rather "free it from its incrustation of materialism".

P. 316 (line 4 ff) "But in that case I suppose a superior knowledge (Nature or God) which knows of these ends, how otherwise could it will them?" hardly brings out the contrast. I suggest "But in such a case, it is because I assume that a higher consciousness . . . is aware of those ends, otherwise how could it will them?"

(lower), *vues d'ensemble* should not be translated by "general ideas," which

has a different and specialized meaning in philosophy but they alone made any comprehensive surveys possible in the biological sciences

(lower) the biologist will always reason for the most part as if should read will argue more often than not as though

P 387 (2 lines from bottom) their (the scientists) methodical ways are cheerfully accepted without questioning whether the aforesaid methods had ever really been applied by the scientists themselves destroys the meaning Read it is because one was satisfied to accept what they pointed out as having been their methods without finding out whether they themselves did actually apply those methods

S V HOFFLING

The Problem of Time An Historical and Critical Study By I. ALEXANDER GUNN M.A. D.Sc. Ph.D. (London George Allen & Unwin Ltd 1929 Pp 460 Price 16s)

The problem with regard to the nature of Time is one of absorbing interest and of extreme difficulty We have probably all felt the truth of St Augustine's famous aphorism Philosophers will have reason to be grateful to Professor Gunn for this careful study of the problem His treatment is mainly historical but the last chapter contains his own contribution to the subject The historical chapters are fully documented and there is a full bibliography so that the philosopher who is interested in what others have thought with regard to Time will find Professor Gunn's book of the greatest use as a guide to further study The exposition itself suffers from the fact that Professor Gunn seems not to have made up his mind whether the exposition is designed chiefly to remind those who have read the works expounded or to inform those who have not If the former then the exposition is unnecessarily full if the latter it is rather too disconnected and too much interrupted with criticism Two brief chapters deal with Greek and with mediæval conceptions of Time one chapter is devoted to Newton and his immediate successors and another to Kant and his successors There is a long chapter on Time in Contemporary Metaphysics which begins with Guyau and includes a discussion of all the best known contemporary theories The discussion of the views of Alexander and of Whitehead are especially interesting although as might be expected Professor Gunn does not succeed in making the latter intelligible The discussion of Russell's views is the least satisfactory Professor Gunn's criticism of the *Tristram Shandy* paradox appears to rest upon a misconception The treatment of McTaggart is so brief as to be completely unintelligible to those who have not read the original

Professor Gunn's own conception of the nature of Time is clearly indicated in the opening paragraph of the last chapter He says All discussions of Time lead sooner or later to fundamental problems of a metaphysical kind To ask what is the nature of Time is in effect to ask what is Reality and on the subjective side as Guyau insisted to investigate our awareness of Time is to raise fundamental problems of the origin of experience Neither psychology nor physics attempts to grasp the problem of the nature of Time in its full significance the one is merely concerned with our subjective awareness of time and the other confines itself largely to considerations of measurement The problem of the nature of Time remains therefore a metaphysical problem (p 371) This contention is undoubtedly true even though some writers on relativity appear sometimes to have forgotten it Professor Gunn is concerned to stress the distinction between (i) the percept of Time and the concept of Time (ii) the nature of our awareness of Time and the nature of Time He

thinks that a failure to observe these distinctions has led to a confusion between *past* and *our remembered past*, and between *present* and *specious present*. He has much to say with regard to the question whether the past or the future *exists* or not but he does not anywhere explain what he understands to be meant by 'This exists'. His failure to analyse this proposition is the main cause of the obscurity of Professor Gunn's own solution of the problem of Time. Thus he says: In any case, Time cannot be restricted to the mere present: it must embrace past and future. These, it is true, do not exist in the way the present exists, and the future again does not exist in the way the past did and does. Although the past event is not now existent, it was a feature of existence and the historical truth of its existence is a fact for all subsequent time (p. 410). This statement is essentially unclear, since it involves a reference to different *ways of existing*, the difference between which has not been explained. It would be interesting to know how Professor Gunn would analyse the propositions, "This is past" and "This existed in the past". The latter does not appear to be inconsistent with "This is present". This would obviously be the case if "This" indicated a *sensum*. The uncritical use of the notions of *existence*, *being*, *reality* is bound to obscure the analysis of temporal facts and hence to lead to unclearness with regard to the problem of Time. But the problem is so excessively difficult that it would be unreasonable to look for a perfectly clear treatment of it. Professor Gunn has succeeded in writing a book that will be of value to all who are interested in this problem.

L. SUSAN STEBBING

Storia della Filosofia. Parte Terza. Rinascimento, Riforma e Controriforma.
By GUIDO DE RUGGIERO (Bari: Laterza & Figli, 1930, 2 vols. Pp. viii + 310, 300. Price Lire 40.)

Professor de Ruggiero is steadfastly carrying through the onerous task of writing a comprehensive history of philosophy. Two volumes have appeared on the ancients, three on the Fathers and Schoolmen, and now appear two more carrying the story to the threshold of what we call the modern period. Besides these, he has published a brief outline of the entire history of philosophy, and a brilliant dialectical survey in two volumes of philosophical thought in the nineteenth and twentieth centuries (English translation under the title *Modern Philosophy* published by Allen & Unwin). My own tribute to him is quite simply, that his achievement is as unwearying as his effort. The most hardened reader of histories may read Professor de Ruggiero's with profit, with rarely flagging interest, and even with frequent delight. He writes for instruction, not for reference, and therefore avoids the style and arrangement of a catalogue. Consequently he is never pedestrian and never merely erudite. Moreover, with a mind as keen as a knife, he is never merely critical, although he makes new assessments; they stand clearly not as excuses for writing a new book on an old subject, but as convictions, sincerely and serenely scholarly. To be original without being anxious to be so, and with an originality that never provokes temper but only thought, because it is informed by a most versatile sympathy, is his most remarkable gift.

A history is best commended by eliciting such general qualities than by arbitrarily selecting a few details for approval or condemnation. Some of us will agree with Professor de Ruggiero that, for example, the modernity of William of Occam has been greatly exaggerated, that his "nominalism" is conceptualism, that Eckhart's dissolving influence on later medievalism

represents only one side of his personality, that Nicholas of Cusa was a pioneer less in virtue of his *Docta Ignorantia* than of his later less systematic works, that Leonardo was not really the philosopher some have claimed him to be; and some of us will be only momentarily attracted by the suggestion that the Florentine Academy's exaltation of the Platonic Idea of Love, in the form given to it by Leone Ebreo, foreshadowed Spinoza's *amor Dei intellectualis*. Instead of prolonging such details, it will be more helpful to mention the author's view of the period as a whole, which he approaches through the separation of philosophy from religion aimed at by Duns Scotus and Occam, the naturalistic interest of the Averroists and the mysticism of Eckhart.

His main conclusion is that the discontinuity between the Schoolmen and the Humanists has been over-emphasized. The former, masters of system, bequeathed the ideal of system and the persistence of this as well as of doctrinal ingredients has to be acknowledged. The Humanists showed their weakness not so much by their inability to find a new system as by their relapsing, when the need of system was most felt, into the old one. "The Humanistic writings express no more than an attitude or a tendency, through lack of method and co-ordination the new impetus which here and there is present in them is soon spent or overcome by the old habits of mind, so that the Scholastic theme which seemed to have been made void easily flourishes again and dominates with scarcely anything to oppose it." There follows a pointed protest against our customary way of narrating the story of the Renaissance with nothing but a forward look. "On grounds of their affinity with us, often on mere suggestions of such affinity, we are led to stress the importance of those elements which are nearer to our life, driving the others back into the shadow of a conventionalized Middle Ages, a Middle Ages woven of shadows. Thus emerge histories made up of anticipations and divinations, as though a whole age could live only to prepare for another."

There is an excellent bibliography, constructed on the principle that a bibliography should be useful and therefore selective. It is introduced with a well deserved criticism of the ever-expanding *Grundriss* of Ueberweg. "In its bibliographical part extremely unequal works, old and new, are catalogued, or rather thrown together, without discrimination, so that the reader who does not otherwise know how to find his bearings will seek in vain for a guiding thread." Professor de Ruggiero will probably be glad to add to the 1592 edition of the *Defensor Pacis* of Marsilio of Padua the edition recently published by the Cambridge University Press. He does not hesitate to say roundly "There is no good monograph on Cusa," but among the monographs listed there should be J. Ritter's *Docta Ignorantia die Theorie des Nichtwissens bei Nicolaus Cusanus* (Teubner, 1927), and there should be mention of the forthcoming edition of the works of Cusa to be published by the Heidelberger Akademie der Wissenschaften.

T F JESSOP.

L'idealismo italiano e i suoi critici. By UGO SPIRITO (Florence Le Monnier, 1930 Pp 267 Price Lire 20)

The book consists of eighteen articles and reviews written during the last ten years, each one dated (XIII is misdated, it should be 1929). Some of the contents show an alert following of English thought, there are critical summaries of the Aristotelean Society's supplementary volume *Relativity, Logic, and Mysticism* (pp 113-118), of Professor Paton's book *The Good Will* (pp 221-229), and of Professor de Burgh's article "Gentile's Philosophy of

the Spirit," in the *Journal of Philosophical Studies* of January 1929 (pp 229-237)

The articles have been collected because of their common concern with the exposition and defence of the new Italian idealism in general and of Gentile's idealism in particular. There is inevitably much repetition, frequent recurrence in almost identical words of the same affirmations and protests, but this constant use of a single measuring rod makes clear to us what in the new movement the author regards as fundamental. Indirectly the book indicates what Italian philosophers of all persuasions are thinking. The author claims that "there is no thinker or problem of any importance in the field of speculative studies that has not been brought under examination." This claim is much too strong so far as problems are concerned, and a few of the articles seem too slight to deserve reprinting—e.g. 'Troppa filosofia,' a reply to a charge made by Croce in *La Critica* that the youth of Italy is busying itself too much with talking about the abstract principles of philosophy instead of applying them in literary criticism, history, etc., though this is of interest as showing Croce's superb confidence in the finality of his findings, and the authority a teacher can acquire in Italy. "Apply my principles, don't discuss them," can only be said by one who knows that he can rely on hero worship, and the Italians' large and often very beautiful capacity for this should be borne in mind when the number of Croce's and Gentile's followers is adduced as a presumptive mark of the greatness of these two thinkers.

I find the chapter on Croce, the longest in the book, the best, though more for its expository side than for its criticisms in the incisive style which Italian writers by preference adopt. Followers of Gentile will be interested in the review of Father Chiocchetti's well known book *La Filosofia di Giovanni Gentile*, to which Chiocchetti's reply is appended.

The author's general position is expressed in his statement that "the deepest value of modern philosophy is to be found in the changed conception of philosophy itself, which is no longer taken to be the observation and comprehension of a world that exists, an observation and comprehension which, by referring to a reality already achieved, are with respect to this accidental and therefore useless, but as the very reason of the world, the process of the world having the same reality as the thought that thinks it, and that reality alone" (p. 206). This really means that the philosophy of Gentile enters history not as another competitor, but as the goal towards which the main line of modern philosophy has been hitherto half-consciously groping, a claim which is connected with the thesis that philosophy and history are identical. The author tries with great ability to prove it, but I confess that neither on this nor on other points has he dispelled for me the obscurity, the oracular veil, that hangs about his master. To take but one of many examples that offer themselves, I can find nothing but rhetoric, in particular the rhetorical show of logic, in the following "History is dialectical development, the passage from sensation to sensation, and the continual resolving or overcoming of one sensation by another, in an eternal drama which is continual victory. But precisely because it is a continual overcoming and a continual victory, the dialectical process of the spirit necessarily implies a something continually overcome—evil immanent in good, grief in joy, multiplicity in unity, death in life, the object in the subject, not being in being, the empirical in the transcendental, nature in spirit" (p. 49). To say the least, there is no distinction here among the metaphorical, the positive and the evaluative meanings of "victory" every act of mind includes something of its predecessor, and therefore "overcomes" it! The meaning of the term "sensation" in the above passage is thus explained. "If we seek truly

to conceive the spiritual act, the thinking rather than what is thought, all multiplicity must disappear and all the grades of the spirit must resolve themselves into a single act. Hence sensation is already the whole of spirit, and is therefore also of necessity perception, representation, concept, judgment, knowledge, will, and in the same way all these are only one, namely, sensation" (p. 47). This must mean either that sensation taken by itself is an abstraction—the veriest commonplace, and capable of simple, direct statement—or that different experiences are identical if their differences are ignored, or else that the part is identical with the whole, and *vice versa*. The statement is anyhow paradoxical in form, and paradox is a rhetorical bauble, unsuited to the austerity of thinking that philosophy demands. I indulge this criticism because metaphor, word play, and paradox form a large part of the verbal stock in trade of this school. Despite it, I am bound to commend the book as an able and interesting record of current Italian thought.

T. E. JESSOP

The Intelligible World: Metaphysics and Value By WILBUR MARSHALL URBAN. Library of Philosophy (London: George Allen & Unwin Ltd. New York: The Macmillan Co. 1929. Pp. 479. Price 16s. net.)

The Idea of Value By JOHN LAIRD (Cambridge University Press 1929. Pp. xx + 384. Price 18s. net.)

Professor Urban rides forth in shining armour from the citadel of the Great Tradition, *philosophia perennis*, to slay the foes that threaten it in these disorderly and rebellious days, with 'Value' for his device. Professor Laird, on the other hand, thinks it best to do a little quiet dissection in his private laboratory before taking the field. Hence the professors do not meet, but if they met it seems likely that they would meet as opponents. Their two enterprises, however, do supplement one another. From Mr. Urban we get a full and eloquent statement of the main issue as he sees it, illuminated by constant reference to the great philosophers of the past. We learn, at least, why he is so eager to assert the integrity and autonomy of values and establish "an intelligible world, in some sense 'beyond' the sensible and the phenomenal." And if in his exposition the trees become somewhat lost in the wood, in Mr. Laird's the wood is strictly subordinated to the trees—for Mr. Laird eschews metaphysics. His careful exposition of the views of others and tentative approaches to solutions of his own, are on the dialectical plane, and in the main he keeps the values separate. Economic good, desire, pleasure, and moral good are dealt with successively, and though he offers us, in the issue, a choice between three general theories of value, these theories are regarded primarily as attempts "to bring precision into the idea of value," and are considered on that ground rather than in their wider philosophical significance. Neither book gives us what is, I think, much wanted, an examination of the concept of value itself, by which I mean a discussion of the nature of the unity into which these diverse elements—the true, the good, the beautiful—are brought when they are together envisaged as values. Mr. Urban would perhaps say that he has done that already in his previous book, Mr. Laird might say that he has not yet got so far. But every book must stand on its own legs, and both of these books suffer from a certain lack of definition in the central conception.

Mr. Urban's general attitude is indicated by his title. Philosophy must try to offer men an intelligible world, a world which has what he calls *intrinsic*, as opposed to mere *instrumental*, intelligibility. His plea throughout is that such intelligibility cannot be reached unless reality is interpreted in terms of

value Reality must be exhibited as more than mere existence or actuality, knowledge must pass into acknowledgment Only so can we pass beyond the abstractions of science to the concrete individual, only so can we maintain any firm idea of progress and development, only so can we recover the old ideals of speculative deduction and philosophical system And if we set ourselves on this path we shall not be able to accept space and time as ultimate, they can be no more than *phenomena bene fundata* In all this we have idealistic theses asserted vigorously against realism But Mr Urban also uses his conception of value as a ground of resistance to certain idealistic tendencies especially against an exaggerated monism His conception of axiological unity requires a scale or gradation in reality culminating in an *ens realissimum*, not a single ultimate substance or *omnitudo realitatis* In the last analysis a system of philosophy must be a system of values Such a unity must be a 'dominant unity' in Leibniz's sense, in the sense, namely, that a "privileged position is given to something—to an *ens realissimum*, and the principle of order becomes one of axiological dominance rather than of logical co-ordination"

In detail I do not find Mr Urban's metaphysical position very easy to understand In the first part he endorses the normative view of logic, but the connection between this view and value-metaphysic is not, in my opinion, made out and I do not understand how a normative logic can be said to be the "reflection" of a spontaneous activity which it cannot "negate" In the second part which is his main argument value is used almost exclusively as the directive of purpose, i.e. as good, truth, and beauty dropping into the background This leads to an emphasis on the time factor, and the general idea of advance and progress so great as almost to cancel the previous affirmation that time must not be taken as ultimate Lastly, Mr Urban, in effect, offers us the alternative of either reducing value to existence or reducing existence to values The first course, he urges involves the destruction of values, and he therefore seems committed to the second But we do not find that this reduction is anywhere in his book clearly and unambiguously carried out

Mr Laird's book is much more difficult to discuss shortly because it has much less unity It has the merit that those who differ from it fundamentally will be able to get a good deal from reading it His statement and discussion of the views of Spinoza the Cartesians, the British Moralists, and Kant, as well as of those of a number of recent writers, will be of great assistance to clear thinking in this field On the other hand, it has the defect that with all his skill Mr Laird cannot make the book read as more than a collection of studies on his subject He has not pulled it together, and he cannot pull it together until he adopts a more definite metaphysical position In detail, Mr Laird is often provocative, but surely he goes beyond provocation into sheer absurdity when he says that "infants are not less social than adults, but, if anything more so"

J L Stocks

The Nature of Knowing By R I AARON, M.A., D.Phil (London, Williams & Norgate Ltd 1930 Pp 154 Price 7s 6d)

Mr Aaron has written an exceedingly good book It is clearly argued, well arranged, always sensible, and never silly These are high merits in any philosophical work and to them Mr Aaron adds another philosophical insight His subject takes him over some of the most difficult and well worn territory of philosophy, a territory upon which all the philosophers have left their trails The trails are confused, and most of them considerably the worse for

near owing to the habit of each successive philosopher of treading in and treading down the footsteps of his predecessors and although it can scarcely be said that Mr Aaron has struck a new one he has at least picked his way with commendable circumspection has failed to go back on his tracks avoided pitfalls and really arrived somewhere

His procedure is to take actual examples of what is commonly called knowing and to embark upon a description of them with a view to seeing whether they exhibit a common factor and if so what. He is not he cautions us attempting to explain knowing by deducing its nature *a priori* from some high metaphysical principle. His purpose is description only and his task surface work.

Before beginning it he announces certain postulates the truth of which he proposes to assume. First there is knowing obviously since if there were not we could not know that there was not and we do in fact know that there is. Secondly knowing is an experience which gives us a feeling of conviction in this it is to be distinguished from opining which is accompanied by no conviction. Thirdly since error can be accompanied by a feeling of conviction we may be quite wrong and yet convinced that we are right and since we cannot be said to know when we are wrong knowing must be infallible knowing being thus distinguished Mr Aaron embarks upon a search for it in sensory experience discursive reasoning and intuitive apprehension.

His discussion of sensory experience is the most illuminating of the three. Rejecting all branches of idealist and representationalist theory he concludes first that we have a conviction that there is an independently real world. This conviction is highly probable but in view of the possibility of solipsism it cannot be held to be certain and is not therefore knowing. There is however another conviction which is absolutely certain this is the conviction that we are actually having sensory experience. But this conviction only arises on reflection—nobody but a philosopher would dream of asserting that there is such a conviction—and is not normally present in sensory experience.

But there is yet a third conviction involved namely that of real being. Sense experience involves an awareness of existence and this conviction that something exists is undoubtedly knowing. Certainly it does not take us very far for we must admit that the qualities we actually experience are not qualities of an independent real and that the combinations of qualities which we call objects are not necessarily to be found in the real. All then that we are entitled to say is that the knowledge such as it is that lurks in sense experience is an apprehension of the existence of a real world. The knowing involved in discursive reasoning and intuitive apprehension is described in the same terms and the conclusion is reached that knowing is precisely the same wherever and in whatever context it occurs. It is not many but one the difference between cognitive experiences lying not in the element of knowing common to each but elsewhere and it is always an intuitive apprehension of the real.

There is an absolute difference between knowing so described and opining. Opining is not knowing become vague. Knowing does not shade off into opining for knowing is always characterized by certainty and opining never is. Unfortunately however the mind can believe it is knowing when in fact it is only opining. Hence our conviction that we are knowing may be untrustworthy. Nevertheless the presence of this conviction is the only criterion of knowing. Our only method of procedure is to subject our conviction to every possible test to free our minds from all prejudices to be very careful that we have not mistaken what is not knowing for knowing. And if after

every possible test is made, we are still convinced, then we can rest assured that we are knowing."

In spite of the excellence of the discussion, it is difficult to feel satisfied with the conclusion. There is, one feels something wrong somewhere. I suggest the following difficulties:

(1) Knowing is first distinguished from opining in terms of feeling of certainty and the difference is said to be absolute. But the difference between feeling certain and not feeling certain is not absolute. The two shade into one another by imperceptible degrees, at one moment one may feel certain at the next not quite certain. Knowing ought therefore, to shade into opining, and, I should say obviously, does.

(2) Elsewhere however the difference between knowing and opining is differently stated. We are told that we may think that we know, we may even be quite certain that we know, when we do not know but only opine. Now the difference between knowing and opining is not here one of feeling of certitude, for there is certitude here, although we are told that there is not knowledge. What, then, can it be if it is not that in knowing we are right and in opining, even if opining is combined with certitude, we may be wrong. We are said to opine although we believe ourselves to know, although in fact we feel certain that we know, because in point of fact we are mistaken. Here there is a different criterion of the difference between knowing and opining.

(3) And how are we to tell whether we are mistaken or not? How, in fact, distinguish knowing, as Mr Aaron defines it, from error? Neither, he is careful to point out, by the tests of coherence or of correspondence. For, says Mr Aaron, we need to know that our knowledge that X fails to cohere or to correspond with Y is trustworthy. And this knowledge the knowledge namely, that it is so trustworthy, cannot be established either by coherence or by correspondence. What, then, is the criterion of knowing? Mr Aaron's answer in the last resort is trustworthiness of conviction. Our suggestion is that the conviction which the knowing act brings in its train is wholly trustworthy, that the untrustworthy conviction arises from a mistaking of an opining for a knowing.

But how do we know of a conviction that it is trustworthy? Obviously by entertaining a feeling of conviction that it is. This conviction, if it is to be knowing must itself be trustworthy, that is to say, it must in its turn be the object of another conviction. We are involved in an infinite regress here, and it is I feel the fact that this regress lurks in the background which accounts for our feeling of dissatisfaction with Mr Aaron's conclusion.

C. E. M. JOAN

Cogitans Cogitata By WILSON CARR (London: The Faval Press 1930)
Pp. xii + 110. Price 6s.

In this book Dr Wilson Carr presents us with a New Monadology. "In form," he says, "I have followed the *Monadology* of Leibniz the matter is my own" (p. ix).

In general Dr Carr's view is that "the principle of monadology is illustrated perfectly in the works of two philosophers of the modern period, Leibniz and Hegel," but that a new presentation of this essential point of view is necessitated by the recent scientific revolution in physics together with a (slightly older) revolution in psychology and in theory of knowledge consequent upon the general acceptance of the evolution theory. He also finds room in

his pages for doctrines drawn from certain modern philosophies of change (e.g. Bergson's, Croce's, or Gentile's). In fundamentals he is right, however, in stating that this new monadology is very characteristically his own.

The condensed form that results from following in the wake of Dr. Carr's celebrated Leibnizian model necessarily puts a certain strain upon the reader—although this is all to the reader's good. What is required is terseness combined with accuracy—the firm outlines of a good etching. The form decrees the naked simplicity of an asserted thesis rather than full dress argument.

Dr. Carr's terseness leaves little to be desired, and it is a pleasure to record that his bold method is likely, consequently, to have most excellent results. For nothing is more salutary than to concentrate the reader's attention on fundamentals, and to keep these continuously before him.

I am not convinced, however, that Dr. Carr is as clear as he is terse, and I shall indicate some of my difficulties in this particular.

On page 3 it is said that monads have nothing in common but we are informed in many places that they have much in common (e.g. activity). What appears to be meant is that there is no single medium containing them all.

On page 5 it is stated that a monad is a "concept", on page 58 it is stated that concepts are (a) universal and (b) relations. Surely these statements cannot all be true.

I have often heard about "identity in difference," but I cannot understand how, on page 9 it is possible to hold both that "philosophy is identifying the actuality of the world with its ideality," and also that "this ideal of complete identity is a complete misconception" (*ibid*). Similarly I cannot understand the statement on page 20 "there is no mind apart from body, no body apart from mind, yet mind and body, while completely identical, are absolutely distinct."

Dr. Carr appears in various places (a) to accept "solipsism," and (b) the view that all "knowledge" is ideal or representative, but (c) to maintain that our representations can be known to have "objective reference." This combination of opinions seems to me untenable, and I can find only assertion and "postulation" not explanation, in Dr. Carr's pages.

On page 67 it is stated that "in actions reality is materialized," although part of the book's thesis is that there is no "matter." I can understand the theory that other monads appear to some given monad as material when this monad acts, although I do not believe this statement to be an adequate account of the appearance, in ordinary intercourse, of one monadic self to another monadic self. But I cannot understand how action or anything else can actually make a monad something that it is not (e.g. material when it is not material), and it does not seem to me that Dr. Carr has been at all careful to avoid what at any rate looks uncomfortably like this absurdity. (Similarly, he seems to hold that "a fixed frame of reference relevant to the movement" is a precondition of "freedom," e.g. on page 78, and also that fixed frames of reference are delusive.)

On page 108 the statement that "philosophy would know the real as it is and finds no pathway from thought to reality," appears to me to be completely sceptical. In the context, it is true, "reality" doesn't mean reality, but only "what exists in effective independence of our thinking", and it is not clear whether we ourselves may exist in effective independence of our thinking or (throughout the book) whether we are supposed to have a non ideal (i.e. non representative) "knowledge" of ourselves. But, even so, there seems throughout the work to be a tendency to suppose that because we do our

own thinking we therefore think (or think about?) ourselves always, although it seems also to be maintained that when we do our own acting we act on something else

JOHN LAIRD

The Nature of Life By EUGENIO RIGNANO (London Kegan Paul, Trench, Trubner & Co., Ltd 1930 Pp x + 168 Price 7s 6d)

Professor Rignano's work on "Biological Memory" is well known, and it was to be expected that his treatment of the problem of the nature of life would be psychological in its attitude. That is indeed so in the case of the book now under review, but he goes a step farther in that he gives his attempted solution of the problem a distinctly energetic meaning. He makes a positive 'vitalistico-energetic' hypothesis which is "intermediate between vitalism and mechanism," and herein lies the great interest of the book. "Animistic vitalistic explanations and conceptions" he says, such as the 'vital impulse,' the 'active teleological principle,' the 'unconscious purpose,' 'supernatural design' "entelechy," etc., are conceptions that are at bottom identical: they are devoid of scientific interest, and each of them is a *flatus vocis*, which demonstrates but does not explain the mysterious purposive properties of life.

This purposiveness he argues, is fundamental in all vital phenomena. We know it, first of all from introspection, in that we see that our activities are very often attempts to satisfy needs and desires, and that these needs and desires are anticipated before they are experienced, because we are often very sure that they will be experienced. This conception is extended to organic functioning, to reflex actions and instincts, to the behaviour of the lower organisms, to individual organic development, to evolution, to human mental activities, moral and social manifestations and it is illustrated by reference to many well known biological results. An individual embryogeny, for example, exhibits what may be called purpose, for the processes that normally occur, and still more those that embryologists call "regulations," have the appearance, at all events of *intention*. It is absurd, of course to say that the embryo knows what it is doing and what it "wants," in the sense of 'knowing and wanting' discovered by introspection. All this specific, tendential activity on the part of the developing embryo is the result of 'specific, mnemonic accumulations' in the past: the mode of development (that is a specific series of tectonic activities) has been discovered by long-past trials and errors, and the successful trials have become incorporated in each developmental organization as "mnemonic accumulations" which guide the chemical and physical processes of the ontogenies.

And so on. The subject is well done. Though most of it has been thought out many times in the past the interesting thing about it is the 'vitalistico-energetic' explanation. The specific mnemonic accumulations are represented (so we understand) by chemical substances in the cell-nuclei: they are to be regarded as potential energies. These substances present in the nucleus of a nerve cell disintegrate under various conditions, and the disintegration originates a stream of *nervions*, which are nervous elements, just as electrons are the elements of an electric current. When an environmental stimulus affects a receptor organ, a stream of nervions flow in centrally, and, impinging on nerve-cells that have "discharged," it reconstitutes the specific, nervion-generating substances. There is only one kind of electron, but there are very many kinds of nervions, differing in what the author calls "capacity."

These streams of nervous are nervous currents, or nervous energy, which is therefore a specific energy-form like electricity, or chemical affinity, manifested in the activities of organisms, but not manifested in any inorganic happenings—it is "energetic vitalism." It has this merit, at all events, says Professor Rignano, it does not drug the biologist with empty words and so remove the stimulus to further investigation, and it permits of the attempt to verify it experimentally.

We may examine it in the light of present physiological knowledge, and first we note that a nervous impulse appears to be always the same wherever it is transmitted in the animal body. A nervous "current" is, of course, a rapid succession of impulses, and nerves appear to differ only in their "adaptability," so that the elementary impulses succeed each other after latent periods that differ in duration. So nerve-currents differ only in their frequencies. Next we note that no energy-form is known *in itself*, an electric current flowing through a wire, for instance, is only detected when we cause it to transform, say, by passing it through a galvanometer, where its energy transforms into the movement of a needle that has mass. The energy that is put into the animal body as that of the food-substances transforms in various ways, and a complete physiological investigation would present us with a series of equations expressing the transformations of one energy-form into another one, and so on, quantitatively. Now somewhere in the body, if the Rignano-hypothesis were to be verified, energy would disappear, in the sense that it could not be detected by any physical transformer known to us. In that case it would be necessary to insert in the equations some other energy-form, undetectable physically, *in order to retain the law of conservation*. Such an energy form might be "vital energy."

It must be admitted that the equations we make are only quantitative approximations, and that we account for the lack of precision by experimental error. So the vital energy might be concealed—just as after Cavendish's experiments the presence of argon in the atmosphere was not demonstrated for a long time because of what was thought to be experimental error in a very careful investigation. And we must remember that it is extraordinarily difficult to measure the dissipation of energy in the course of a succession of nervous impulses, so infinitesimal is the quantity concerned. A nervous impulse must be regarded as *releasing* further energy-accumulations. Breaking upon a synapse an impulse probably is analogous to the variations of potential that affect the grid of a thermionic valve, and those quantities of energy are extraordinarily minute. So a vital energy-form acting in a releasing way may be so small in quantity as to escape attention under the guise of experimental error.

Nevertheless, physiological investigations become more and more precise, and we may be sure that the tracing of the passage of energy through the living body is to be described by a series of equations involving only the transformations of known energy-forms—that is what a careful and candid study of physiological results tends more and more to demonstrate. It is quite true that such results do not really describe Life, but only the manifestations of life in energetic systems. And so the Rignano-hypothesis, like its precursors, only shows the extraordinary difficulty of any attempt to "explain" living phenomena purely in physico-chemical terms.

JAMES JOHNSTONE.

Philosophy by Way of the Sciences By R H DOTTERER, Ph D, Professor of Psychology in Franklin and Marshall College New York and London. Macmillan Co 1929 Pp xv + 469 Price 10s 6d)

It is strange that the question how philosophy should be taught—the question of curriculum, which looms so large in sub university circles—is never seriously discussed by us *solutur ambulando*. Yet it is easy to discern principles in our practice, and one of them is that philosophy should be exhibited not as a tradition but as a natural and unavoidable consequence of present-day problems. In this country Russell, with his contempt for history, is its most outspoken advocate. Obviously the principle will work itself out in different ways according to the temperamental bias and scholastic training of each several teacher: one will start from the intimate perplexities of morality and religion, another from the bristling problems of science and politics, another from the embarrassment of our æsthetic sensibility before the weird variety of weird things now being offered to it, and another from the pre-suppositions and adumbrations of the fundamental sciences.

Professor Dotterer would begin with the sciences. One of his reasons is that philosophy should be (as in intention it always has been) a part of our collective attempt to explain fact. This suggests that the only way of getting to know facts is to turn to the sciences, and also that explanation can only proceed from facts and never to them. He is on stronger ground when he points out that since the central problems of philosophy arouse deep emotions which make cool judgments hard, they should not be approached until the student has acquired the habit of dispassionate thinking by reflection on problems which have no direct or obvious relation to our moral and religious interests. The chief difficulty of realizing his method is the inability of most of us who are teachers to master the vast field thus prescribed, or, supposing that to be overcome, the inability of students with no scientific training to seize the real force of scientific examples. The merit of his book is that its primary aim is to overcome this difficulty. The first half of it gives a select summary of typical results in the various sciences (astronomy, geology, and physical geography are added to mathematics, physics, chemistry, biology, and psychology), together with a sketch of the evidence for them, and elicits and discusses the philosophical problems involved. The procedure is a bold one, but the author rightly urges that something of the sort is badly needed, and he carries it out with a modesty that cannot offend any reasonable person. So far as a non-scientist is able to judge, the scientific chapters are excellent both in the selection of topics and in the exposition, which is a triumph of simplification. These chapters have passed the scrutiny of specialists. The second half is an introduction to philosophy along the usual lines.

As an introductory textbook it is altogether admirable, worthy of the great labour that has gone to make it. Intelligent students doing an honours course will find it a plain guide, the only one we have in English, and many a teacher will be glad of it as a plan and for its illustrations. Each chapter is followed by a short bibliography, and there is a very full index.

T E JESSOP

Wealth and Life: a Study in Values By J A HOBSON (London. Macmillan & Co 1929 Pp xxxi. + 489 Price 15s net)

Apart from its Introduction, this book falls into four sections. Part I ('Standards of Welfare') discusses the nature of human welfare and defines it as the realization of personality in community. Part II ('Ethics in the Evolution of Economic Science') presents us with a survey of the origin and

development of economic theory, and of its various attempts at a definition of wealth, with a view to showing how far non-economic considerations in general and ethical considerations in particular have been and ought to be, operative in the minds of economists. Part III ("The Ethics of Economic Life") turns from economic theories to economic systems and institutions, and seeks to exhibit the moral inadequacy of those now prevalent, especially in the attitude which they imply towards property and the obstacles which they place in the way of smooth and harmonious economic co-operation. And in Part IV which is the longest, though from the philosophical point of view the least important part of the book, we are offered some "Organic Reforms of the Economic System." There is also an Appendix which contains, not only a short bibliography, but a fairly full list of questions and subjects for study.

This brief and necessarily inadequate summary of the contents of the book will no doubt suggest that its chief interest for readers of this *Journal* lies in its first part, and to a lesser extent in the application, in the two succeeding parts of the results there achieved. But readers seeking enlightenment on the philosophical issues raised in it will be somewhat disappointed. For there is little that is original or carefully thought out in the discussion of welfare, except perhaps the attempt made principally in the third chapter, to show how 'community is a necessary condition of welfare if not actually part of it and to point out that welfare however defined, is relevant to economics both in the productive and in the consumptive processes. The merit of the discussion lies in fact in the treatment of practical detail rather than in any general principles for which it could be said to contend. And then, in the succeeding parts, when ethical considerations are applied to economic theories and systems, what is applied is not so much the position theoretically worked out in this first part as simply the ordinary unreflective moral attitude of the plain man of to-day. This could, no doubt, be said of most moral condemnations of capitalism or other economic systems, nor is it necessarily an error, since a moral philosophy is not much more necessary for judging social systems and institutions than it is for judging individual actions or motives. But it has the inevitable result that the first part of the book is less closely connected with the succeeding parts than we expect it to be.

There is, in fact little continuous argument, ethical, economic, or of any other kind, anywhere in the book. In spite of its coherent framework, it is digressive throughout even the distinction on which Parts II and III are separated from one another is not always maintained, nor is it always clear whether the judgments that are passed in it are economic or ethical. As might be expected by those who are acquainted with Mr. Hobson's other writings, Parts II and III are inspired by a very definite point of view—the same, in fact, which has inspired his other writings. But it is not worked out into a general thesis, even out of relation to Part I, and its relevance to these parts is simply that it provides guidance for, and is illustrated in, a detailed and critical discussion of the moral adequacy both of economic theory as a whole and in detail and of economic systems actual and possible. In the course of this discussion Mr. Hobson certainly succeeds in covering most of the points that are liable to trouble the minds of thoughtful people when they reflect upon our economic discontents, touching even upon points which are foreign to the framework of the book or remote from the context in which they are set. And readers of this *Journal* will know very well that his qualities are admirably suited for a task of this kind. They are indeed so admirably suited as to entitle us to regard some of the defects of the book as advantages, and perhaps even to praise the absence of any general

thesis as amounting to a mentorious refusal to maintain an exclusive and limited point of view. For his generous sympathies, his wide knowledge, his cautious mind, and his earnest endeavours to be impartial, inevitably make his discussions valuable and stimulating, whatever topics he may be dealing with. And the stimulus derived from them is surely as useful as the presentation of a cut and-dried argument which needs to be either accepted or rejected.

It is, however, to be regretted, even from this point of view, that the book is disfigured by a number of inaccuracies, due probably to hasty proof reading or careless printing. For example, we are told (p. 17) that "Hobbes declared that Reason is and always must be the servant of the passions", and are referred (p. 156) to Mr J. M. Keynes' *Economic Consequences of the War*, and also (p. 87) to the doctrine, apparently attributed to Aristotle, of virtue as a Means. On p. 434 there is an entirely incoherent sentence, presumably caused by the omission of a line in the printing, and in one or two places figures seem to have been incorrectly reproduced. Mr Hobson (or the printer?) has also an irritating habit of coining unnecessary new words, of which 'utoped' (p. 327), 'equatics' (p. 166), and 'Utilitarianists' (p. 109), may serve as examples. and he confuses us further in places by the simultaneous use, in his illustrations, of English and American currency. (The book was printed in America.) These may seem to be grave blemishes, yet they do not any more than its other defects, detract from the generous and humane spirit in which the book was written.

OLIVER DE SELINCOURT.

Embryology and Evolution. By G. R. DE BEER (Oxford). At the Clarendon Press. 1930. Pp. ix + 116. Price 5s. net.

In two previous books—*Growth* and *An Introduction to Experimental Embryology*—Mr G. R. de Beer has already displayed his talent for conveying a great deal of information in a small compass. The present book, which is about the same size as the former ones, deals with the relation between individual development and racial evolution, and the celebrated "law" of recapitulation. It is described in the Preface as "the outcome of a simmering revolt" against the latter doctrine.

If a theory is sufficiently nebulous, it is extremely difficult to know what precisely one is revolting against, and it cannot be refuted. If it is coupled with the name of a famous authority, it may enjoy a longer life than it deserves, until finally the focus of scientific attention changes and it is forgotten. These are, perhaps, some of the reasons why Haeckel's famous doctrine attracts so little attention at the present day. There has been a gradual dwindling of interest in all speculation of this sort among modern biologists, the tendency of the age being to confine attention to topics which admit of an appeal to experimental data. How can we possibly test hypotheses about the racial evolution of an animal group in cases where there is no possibility of fossil evidence? How can we use embryological data in the construction of hypothetical pedigrees and then discuss theories about the relation between pedigree and individual development when the very construction of such pedigrees presupposes some such theory? Mr de Beer uses the terms 'inferred' and 'proved' in a somewhat strange sense in a reference to this point. He says (p. 103) "the ancestral adult structure can only be inferred and not proved

from a study of development. What seems to be meant is that we can make more or less plausible guesses which cannot apart from non embryological data be checked. Considerations of this kind suggest that speculations relating to these topics will inevitably be inconclusive and can never attain to the status of scientific knowledge. But those men of science in the nineteenth century who condemned speculative philosophy did not include such speculations as these in their condemnation because they happened to be interested in them.

Perhaps the clearest and most essential feature of the doctrine of recapitulation has been the belief that evolution has consisted in the tacking on of something new at the end of life histories in genetic succession. But even the recapitulation theory itself was compelled to modify this contention and it is this belief with which Mr de Beer's discussion chiefly deals. He brings forward reasons based on recent experimental investigations for believing that a change in the genetic type of a succession of zygotes may have consequences for any stage in the subsequent developmental processes. He distinguishes a number of theoretically possible ways in which the time of appearance of a part in relation to the whole life history may change and then proceeds to describe cases which can be interpreted on the basis of these possible hypotheses.

Mr de Beer has thus succeeded in giving a very new and refreshing turn to an old topic. And while the pure experimentalist may shake his head in disgust and the strict logician tear his locks in despair (and these discussions are rather exasperating from the latter standpoint) such an inquiry into the consequences of possibilities not contemplated by nineteenth-century biologists is surely not without value. Theories of this kind are only dangerous when they are used by eugenical enthusiasts as arguments for sociological experiments.

One obstacle to the working out of the consequences of a newer set of assumptions is the present lack of a suitable language and suitable concepts with which to discuss them. Mr de Beer has not approached these questions from this point of view. But this has been a potent factor in the inconclusiveness of the older discussions of the same topics. What is one to understand by the assertion that 'phylogeny is the mechanical cause of ontogeny'? How can we speak of the cause of anything and how can such an abstraction as 'phylogeny' be spoken of as a cause? Mr de Beer follows this bad precedent when he speaks of neoteny as the cause of the retention of plasticity. There does not seem to be any hope of a clear issue to these discussions so long as they are conducted in terms of vague abstract substantives. We also need a better analysis of developmental processes. Throughout the book Mr de Beer uses the expressions 'internal factors' and 'external factors' and he identifies the former with the *genes* or hypothetical nuclear particles of modern genetics. He speaks of these two sets of factors as moulding the animal through the successive stages of ontogeny. One is thus left to wonder what this entity may be which is referred to as the animal. Surely the internal factors as above defined are *parts* of the animal. Consequently the assumption seems to be made that the rest of the animal is indifferent in development and is being conceived as a sort of passive clay which is moulded by two sorts of factors. This seems to be very crude and suggests that our notions relating to developmental processes do not yet possess the right degree of logical multiplicity for dealing with them adequately.

Mr de Beer has made an interesting and stimulating little book out of this old topic and any philosopher who wishes to learn how the recapitulation theory stands at the present day cannot do better than consult it. The author's

the processes of stellar, planetary, geological, and chemical evolution—to *materiality*, we may say. And since this postulated agency is opposed to materiality, we may as well call it *spirit*, meaning just what is suggested above.

On the universal scale the spiritistic agency is of course, unimaginable, on the microscopic scale we discover it in human efforts at organization. On the macroscopic scale we say that it is creative, but to obtain useful energy by synthesizing starch from carbon dioxide and water, whether by a green plant, or an experimenter is also creative. A creative result is one attained frequently and *by intention* for the same result may occur at random but with great improbability. A poem may be a creative result but Swift's Gulliver saw the savants at the Academy of Lagado trying to obtain it by a random process and without intention. Clearly life as we know it introspectively has something of the organizing agency that we postulate as the reason for the initial phase of the universe.

Which means that life is spirit and that organic evolution has been the manifestation of spirit—that which has in the latter phases of cosmic evolution resisted the degradation of universal energy.

On Mr. Standing's analogy evolution may be thought about as decomposable into trends which fuse in human personality—just as white light is decomposable as it passes through a prism. Life (arbitrarily) decomposes, as we attend to one aspect after another, into the biological elementary categories. These are *assimilation*, *growth with differentiation* (development), *reproduction*, *reproduction with differentiation* (evolution) and *self preservation*. We do not see these activities in inorganic evolution. Now this is not all—the categories express strictly physiological processes which exhibit analogies with inorganic ones. Thus an acid exhibits a tendency which is neutralized by chemical contact with a base, after which a stable salt is formed and nothing more happens. So an animal feels tendency towards assimilation, and the tendency is satisfied by feeding, but it becomes hungry again, and there is never stabilization of its condition. It reproduces, but it continues to reproduce (via the race), and there is no limit to the process in potentiality, and so on. Further, the urges of life persist beyond the states of normality, which we have suggested, are analogous with the neutralization of an acid and so something new occurs in the higher organisms at all events, as the results of the life-urges. We may attempt to trace the factors of personality in the *excess values* of the operations of the life-urges.

Over adaptations to environment result in the failures of races as we see them in the paleontological records or so the bizarre morphologies and life-histories of many parasites. Over-eating results in satiety and in the luxuries of the banquet. The capture of animals for food has exceeded itself in the extravagancies of killing for sport. Reproduction has had obvious excess-value in prostitution. The storage of food by the wild animal that prepares to face deprivation has become monopoly in trade. Sheltering devices have become the luxuries of habitation and dress. And so on.

But, these things being admitted we may not deny that those correspondences between organic functioning and behaviour, on the one hand and the environment on the other—correspondences that are *valid* or *at all*, for self-preservation—become *truth*, "finish" in the elaboration of artifacts whereby the latter become the more efficient, end in the feeling of *beauty*, the impulse to gregariousness—one for all and all for one—has attained momentum in *goodness* and parental care. The leaning of one generation over another, as Bergson says has become *love*. Thus the highest human personalities are sublimations of organic tendencies—the expressions of spirit. All this can easily be amplified from the facts of biology.

In Mr Standing's book all this is implicit where the expression may not be as we have indicated above. The biology is sound and the illustrations that are drawn from physiology, natural history and evolutionary process bear clearly on the arguments. The religious expositions with which each chapter concludes may be regarded as analogies with rather than deductions from the biological matter. But the reader will readily see the force of these analogies by following out the lines of thought indicated above.

JAMES JOHNSTONE

Girolamo Pico della Mirandola: On the Imagination By H. CAPLAN
Assistant Professor of Classics in Cornell University New Haven
Yale University Press for Cornell University England Milford and
Oxford University Press 1930 Pp ix + 102 Price 4s 6d wrappers

The remarkable university libraries of the United States are providing facilities for research in the byways of history which are being taken full advantage of. Contributions ranging from papers to impressive volumes to our knowledge of long neglected persons and their work are being steadily produced. Some of them have the unintended result of showing that the neglect was merited and may be continued. Others while falling short of revising a reputation make available texts inaccessible to most of us and induce us to read them. Professor Caplan's book is of this latter kind: it gives a text which has not been printed since 1601 and which seems to have been translated only once before and that as long ago as 1557 (in French).

John Francis Pico della Mirandola (d. 1533) was nephew of the better known John Pico and like his uncle was one of the prominent figures of the great humanistic school of Florence. Holding an insecure lordship and drawn by circumstance into frequent petty warfare he was yet able to produce a considerable body of philosophical and religious writings, once widely read. Any generalization about the humanism of the Renaissance would be unfair without a consideration of his work. In him the Renaissance expresses itself neither as a carnival of licentious paganism nor as an exclusive passion for pagan thought. He is a humanist in the larger, not in the etymological sense of the term: he is as theocentric as any scholastic; only he brings to his religion the love of ancient letters and recognizes the light of revelation outside the Scriptures, the Fathers and the Councils. Indeed his work may be defined as an attempt to rethink and re-express the Christian doctrine in the full light of the newly discovered philosophies of Greece and Rome. Though in the centre of the Platonizing movement it would be superficial to call him a Platonist: his Platonism is Neoplatonism which from the first made large borrowings from Aristotle and to these the younger Pico added further direct borrowings of his own. His psychology for example is largely that of Aristotle's *De Anima* on which he wrote a commentary which has not survived. Accordingly he rejects Plato's theory of innate ideas (*De Imagin.* ch. v). It is his metaphysics of mind that leans on Plato—in the present treatise his depreciation of imagination and his making of body and spirit two substances (ch. vi).

The short treatise on imagination first published in 1500 is practical in its purpose. Professor Caplan calls it ethical. I should prefer to call it hortatory with the admission that it is exhortation philosophically pondered. It opens with a brief summary of Aristotle's psychology of imagination distinguished by a masterly lucidity and conciseness. He first distinguishes imagination from sense on the one hand and from opinion and reason on the other but in reference to the former of these distinctions he sees the necessity of the

question (ch. iv) potius sit unica tantum sensualis animæ potestatis quæ modo sensus communis modo imaginariæ facultatis modo memorie nomen pro functionum diversitate obliuiscitur (which according to the diversity of its functions may be called) and in the end inclines to answer it affirmatively. Per imaginationem enim ad præsens intellego omnem sensualem animæ interiorem vim quibuscumque ex nominibus ab aliis censeatur (ch. v). Then follows an examination of the place of imagination in the moral life. Images are potent in exciting desire. Evil images are responsible for most moral corruption; conversely, the young may be established in habits of good desire by presenting moral and religious truth in the form of attractive and warning images (ch. xii). In the manner of Epictetus, who is several times referred to explicitly, the author points out that many of our fears and vexations are due to the misinterpretation of images and insists that in a healthy mind desire is ruled not by imagination but entirely by reason. The use of imagery in private devotion is also touched upon.

Professor Caplan's translation is admirably carried out with elegance as well as accuracy, and his introduction and annotations are models of economical statement. It is a pure pleasure to have this interesting treatise made available with such competent modesty. And as becomes a beautiful book, it is beautifully printed.

T. E. JESSOP

Principles of Experimental Psychology. By HENRI PIÉRON. Translated by J. B. MURR. International Library of Psychology, etc. (London: Hegan Paul Trench Trübner & Co. Ltd. 1929. Pp. viii + 190. Price 10s. 6d.)

This work is a translation of Piéron's little book *Psychologie expérimentale* in the Collection Armand Colin. The little book itself is an excellent one and especially interesting because of the point of view from which it is written. Piéron is first and foremost an experimentalist. It can be safely assumed therefore that his sympathies will be with the behaviourists. His behaviourism however is a very sane and moderate behaviourism and he quite definitely refuses to go the whole way with Watson and Pavlov. Beginning with an historical introduction, he goes on to cover the whole range of modern psychology as seen from the experimentalist's standpoint. The standpoint is clearly defined in the first chapter. We quote him in the French designedly.

C'est ainsi que tout un domaine d'études psychologiques considéré comme ayant trait à des phénomènes de conscience concerne en réalité des formes particulières d'activité de conduite des modalités caractéristiques de réactions principalement verbales.

In this passage the translator translates 'the entire domain'. This is more or less characteristic of the looseness and carelessness of the translation throughout. But even carelessness will hardly explain some of the more serious errors. They suggest imperfect knowledge of the language or of psychology or of both. Sometimes the translator makes the author say practically the opposite of what he does say. For example, Piéron says 'avec un poids d'un milligramme aucune réaction ne peut être obtenue en répétant 100 fois l'excitation'. The translator makes him say 'for a weight of a milligram any reaction may be recorded by repeating the excitation a hundred times' which in its context is sheer nonsense. Enough for the translation which is one of the worst the present writer has ever come across.

As has been said Piéron's book is very comprehensive. The Collection Armand Colin is intended for the intelligent reader who wishes to get a

general view of a field different from his own 'spécialité'. Books of this kind are apt to suffer from over-compression. They leave out details and include more than can be easily grasped without the details. This is perhaps the one fault of the present work. Apart from this which as we have indicated is apt to make it somewhat difficult reading independently of the vices of a bad translation it may be warmly recommended to anyone who wishes to get a passably clear and concise statement of the present position in every field of experimental psychology. But such a reader is strongly advised to read the book in the original French. Even to a poor French scholar it will be more intelligible thus than in the English translation.

JAMES DREVER

Animism Magic and the Divine King By GÉZA RÓHEIM Ph.D. author of *Australian Totemism* (London Kegan Paul Trench Trubner & Co Ltd 1930 Pp xvii + 390 Price 21s net)

Science like evolution progresses by variation and selection. Thus scientists can be roughly divided into the productive and the critical according to which of these two functions they perform. The purely critical are quick to eliminate the errors of other people but this same faculty is apt to make them over cautious in the development of their own ideas. Dr Róheim does not suffer from this defect. He is an extreme example of the productive type. He is prolific of original ideas but he leaves it to others to select those which are worthy to survive.

The underlying motive in his present work is an attempt to apply some of Ferenczi's psycho-biological speculations in the anthropological field. Ferenczi in his *Versuch einer Genitaltheorie* regards the act of generation as an autotomy which is the present equivalent of the multiplication by fission of the protozoa. He suggests that the fear of castration which psycho-analysis so regularly reveals is a resistance against the impulse to autotomy or fission and that this fear is only absent when the separated part is incorporated into a being who is loved and therefore treated for the moment at least as a part of the self.

Dr Róheim in his attempt to reduce the strange fears and customs of primitive man to the same source begins by pointing out that the fundamental dread of the savage is of the loss of a part of himself. This dread he illustrates in the fear lest hair nails or excreta should be stolen by a sorcerer in the fear of the loss of the soul at death and in the fear of the loss of mana which underlies taboos on intercourse. These objects are he argues symbols of the penis or of semen. Thus for example he finds evidence of the phallic significance of the soul in the Egyptian belief that the fish which swallowed the phallus of Osiris was also the fish which carried the souls of the dead to the other world (31).

Dr Róheim next attempts to explain the consolation for death offered in beliefs of a future life. He has collected considerable evidence that the other world is a symbol of the womb and he therefore argues that the unconscious which regards death as castration seeks also to regard it as the only kind of castration which is tolerable namely coitus with someone who is loved. 'The soul enters heaven as the sperm enters the ovum and for the same reason. The idea of the loss of the semen or of death would not be bearable without this consolation (381).

The rest of the book is concerned with the medicine man the Divine King and the Scape Goat. The medicine man performs much the same ceremony either to kill or cure his victim or his patient. This ceremony Dr Róheim

interprets as a symbolic castration a symbolic coitus or as a combination of the two. Thus the kidneys were regarded by the Hebrews as the seat of lust and in the Targum the same word is used for kidney and for testicle (67). It is especially the kidney fat which is stolen by the sorcerer. Or again the Lontja wizards smear a rope with blood from the subincised penis and project it in the form of a serpent into their victims (74). The good medicine man cures by restoring what the bad medicine man has taken from the body or by removing what he has put into it.

The Divine King and the Scape Goat are both cultural descendants of the medicine man but Dr Róheim finds that their phallic attributes are more developed (384). Thus the symbol of King Erichonius was a serpent or a wooden phallus (261). The Divine King was the consort of the Great Mother and he was sacrificed. He was thus a ruler who satisfied the unconscious desires of his subjects and who suffered the talion punishment for them (224). The Scape Goat was a degenerate derivative of the Divine King (311). He too symbolically performed the sin of coitus and suffered the penalty of castration.

It is impossible here to summarize the evidence which Dr Róheim has collected to support his thesis. But anyone who reads his work with care and patience will be at least convinced of the extraordinary prevalence of sexual symbolism in myths and cults. In particular he will probably be persuaded that the soul the Divine King and the Scape Goat are often phallic symbols and lastly that death and especially sacrifice may symbolize both castration and intercourse.

This last result requires some further comment. The fact that the same situation can apparently symbolize such different things has long been a problem of psycho-analysis. Rank has attempted to explain it by reducing the impulse of generation and the fear of castration to an urge to return to the womb and to a dread of the repetition of the shock of birth. Dr Róheim following Ferenczi attempts to explain the same coincidence of desire and fear by deriving them from a protozoa's impulse to fission and to its supposititious resistance against this event. Such speculations however ingenious they may be have not been generally accepted by the psycho-analytical school. The more usual view is that incest and castration are so intimately associated as crime and punishment that it is difficult to desire or fear the one without fearing or desiring the other.

Although Dr Róheim has developed his argument and arranged his material more systematically than in his *Australian Totemism* his writing still displays a characteristic disregard for the mental comfort of his readers. But it is ungenerous to criticize too severely a work which contains so much of value. For although some of its hypotheses are extravagant and difficult to follow the general impression which it should leave is respect for the learning the fertility and the courage of the author.

ROGER MONEY KIRLE

An Introduction to the Social Sciences By C. DELISLE BURNS (London George Allen & Unwin Ltd 1930 Pp 112 Price 2s 6d net)

This little volume is a reprint of a series of articles recently published in this *Journal* but if it is convenient that it should be reissued in book form it is perhaps also convenient that it should be briefly noticed even in the place of its original appearance. In spite of the digressive manner in which it is written its plan is quite simple. The first three chapters are devoted to the three principal spheres of social relations politics economics and culture.

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with the aim of showing how a more comprehensive social philosophy is necessary to correct the limitations of the special social sciences dealing with each or rather of making this point about politics and economics and of arguing that 'culture' no less than they, is an important sphere of social relations. Chapter IV is occupied with a discussion, at the same time theoretical and practical and indeed probably the best thing in the book, of Order and Liberty, regarded as the chief problem of a comprehensive social philosophy. While in Chapter V ('Man and Society') such a philosophy is shown to be useful in supplementing other deficiencies than those of the social sciences so far considered including some in general philosophy itself. Naturally enough, we cannot expect a closely reasoned social theory in a volume of this character, of which the purpose is obviously to sketch and stimulate rather than to discuss or convince. But Mr Burns writes from a comprehensive point of view which, though chiefly evident in his detailed and incidental discussions enables him also to achieve a certain measure of success in his more general aims of surveying the whole field of social relations and of indicating the incompetence of the special social sciences to cover it adequately. It will, however, be felt by some readers that even in these tasks his success would have been greater if he had raised the question whether political science, in view of the ubiquity of the problem of government with which it deals, is not the fundamental social science, rather than just one science parallel with the others—especially since the problem of Order and Liberty, which he seems to regard as one of the major problems of a comprehensive social philosophy, appears to be much more closely connected with it than with any other social science. While other readers, in view of his own obligations, in his discussion of that problem and elsewhere will regret the attitude implied in his remark (p. 86) that "most commentary upon dead philosophers is waste of time."

OLIVER DE SELINCOURT

Samkhya and Modern Thought By JAINESWAR GHOSH, M.A., Ph.D. (Calcutta The Book Company Ltd 1930 Pp iii + 141)

The author of this book is Dr J. Ghosh, Principal of the Ananda Mohana College, Mymensingh who has previously published three volumes on Rent, Land Tenure and Higher Education, which have been very favourably reviewed for qualities which are also evident in the present volume. His object in writing it was, he says to convince his readers that old ideals and outlooks were not necessarily obsolete. As an advocate of Oriental learning, he wished to place before his readers a notable production of the Indian Mind. Though the Samkhya has not the practical importance of the Vedānta, a knowledge of it is necessary for the understanding of the latter system. The author, following the example of some others translates the term *Purusha* as Soul. It is better, however, to use the word Spirit, because the English term Soul connotes Mind, and Mind is alien to the *Purusha*, who yet identifies itself with it. The book shows the qualities of the preceding volumes by the same author, being clear, lucid and scholarly, and is, within its measures, of utility by its interesting presentation of the more important concepts and principles of the Samkhya system.

JOHN WOODROFFT

Books received also —

- HEINRICH FELS *Bernhard Bolzano Sein Leben und Sein Werk* Leipzig Felix
Meiner Verlag 1929 Pp x + 109 Preis brochiert RM 5 gebunden RM 7
- Spinoza *Selections* Edited by JOHN WILD London Charles Scribner's Sons
1930 Pp lxi + 479 3s 6d
- F R ROST OBE KILL, MRCS I RCP *The Nature of Consciousness*
London Williams & Norgate Ltd 1930 Pp 158 12s 6d
- MARION RUSH STOLL Whewell's *Philosophy of Induction* Lancaster Pa
Lancaster Press Inc 1929 Pp iv + 125
- HUBERT M FOSTON D Lit *Man and the Image of God* London Macmillan
& Co 1930 Pp 228 7s 6d
- GABRIEL MARCEL *Journal Métaphysique* (Bibliothèque des Idées) Paris
Librairie Gallimard 1927 (2^e édition) Pp xi + 242 Price 35 frs
- HANS DRIESCH Ph D *Ethical Principles in Theory and Practice* (Tr by
W H JOHNSTON) London George Allen & Unwin Ltd 1930 Pp 248
7s 6d
- S HARRISON THOMSON Ph D B Litt (Editor) *Johannis Wyclif Summa
de Ente Libri Primi Tractatus Primus et Secundus* Oxford Clarendon
Press 1930 Pp xxxvi + 119 10s 6d
- GIOVANNI GENTILE *Storia della Filosofia Italiana dal Genovesi al Galluppi*
Seconda Edizione Two volumes Milano Fratelli Treves 1930 Vol I
pp xv + 272 Vol II pp 260 Two volumes Lire 40
- RICHARD M VAUGHAN *The Significance of Personality* New York The
Macmillan Co 1930 Pp viii + 302 10s 6d
- JACOB BOHME (Tr JOHN ROLLESTON EARLE MA) *De Electione Gratiae &
Quaestiones Theosophicae* London Constable & Co 1930 Pp lxx + 325
10s 6d
- Various *Contemporary American Philosophy* (Ed GEORGE P ADAMS and
WM PEPPERELL MONTAGU) New York The Macmillan Co London
George Allen & Unwin Ltd 1930 Vol I pp 450 16s Vol II pp 447 16s
- CHARLES E HOOPER *The Fallacies of Fatalism Or the Real World and the
Rational Will* London Watts & Co, Ltd 1930 Pp x + 211 10s 6d
- Various *The Drift of Civilization* London George Allen & Unwin Ltd
1930 Pp 254 7s 6d
- S D McCONNELL DD LL D, DCL *Immortality* London and New York
Macmillan & Co 1930 Pp 178 6s 6d
- SIR JAMES GEORGE FRAZER OM, FRS FBA *The Growth of Plato's Ideal
Theory* An essay London Macmillan & Co 1930 Pp vii + 114 7s 6d
- LLEWELYN POWYS *The Pathetic Fallacy a Study of Christianity* London
Longmans Green & Co 1930 Pp vii + 129 5s
- A WOLF MA, D Lit *Textbook of Logic* London George Allen & Unwin
Ltd 1930 Pp 407 10s
- SIR OLIVER LODGE *Beyond Physics or the Idealization of Mechanism*
London George Allen & Unwin Ltd 1930 Pp 172 5s
- ALEXANDER MEEK D Sc *The Progress of Life A Study in Psychogenetic
Evolution* London Edward Arnold & Co 1930 Pp vii + 193 10s 6d
- Opera hactenus inedita Rogeri Baconi Fasc X Quaestiones Supra Libros
Prime Philosophiae Aristotelis Nunc Primum Edidit ROBERT STEELE
collaborante FERDINAND M DELORME, OFM Oxonii e Typographeo
Clarendoniano Londini apud Humphredum Milford 1930 Pp xxxii
+ 360 28s*
- WOLFGANG KOHLER Ph D *Gestalt Psychology* London G Bell & Sons
1930 Pp xi + 312 15s

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- JEAN PLAGET D.Sc. *The Child's Conception of Causality* (International Library of Psychology and Philosophy) London Kegan Paul, Trench, Trubner & Co 1930 Pp viii + 309 12s. 6d.
- HOWARD O EATON Ph.D. *The Austrian Philosophy of Values* Norman, U.S.A. University of Oklahoma Press 1930 Pp viii + 350 5 dollars.
- R. H. WILENSKI *A Miniature History of European Art* London Oxford University Press Humphrey Milford 1930 Pp xvi + 80 4s. 6d.
- SIR RICHARD PAGET BART. *Babel or the Past Present and Future of Human Speech* London Kegan Paul, Trench, Trubner & Co 1930 Pp 93 7s. 6d.
- F. M. POWICKE *Robert Grosseteste and the Neoplatonic Ethics* (Proceedings of the British Academy Vol. XVI) London Humphrey Milford. 1930. Pp 77 1s. 6d.
- VITTORIO D'ACCHIO *From Orpheus to Paul* (Schermmerhorn Lectures I) New York Henry Holt & Co 1930 Pp 76 3 dollars.
- H. PIERON *Le Développement mental et l'Intelligence* Paris Alcan 1929 Pp xii + 92 Fr 10
- A. RIVAUD *Les Grands Courants de la Pensée antique* Collection Armand Colin. Paris Colin 1930 Pp 119 Fr 9
- A. CRESSON *Les Systèmes philosophiques* Collection Armand Colin. Paris Colin 1930 Pp 219 Fr 9
- L. ROBIN *Platon Œuvres complètes tome II 2^e partie Le Banquet* Collection des Universités de France Paris Société d'Édition 'Les Belles Lettres' 1929 Pp cxxi + 184 Fr 7s
- J. FARGUES *Les Idées Morales et Religieuses de Méthode d'Olympe* Contribution à l'étude des rapports du Christianisme et de Hellenisme à la fin du troisième siècle Paris Beauchesne. Pp 266 Fr 45.
- J. FARGUES. *Méthode d'Olympe Du Libre Arbitre* Traduction. Paris Beauchesne Pp 184 Fr 36
- P. BRUNET *Maupertuis Etude Biographique* Paris Blanchard 1929 Pp 190
- Maupertuis L'Œuvre et sa place dans la pensée scientifique et la philosophie du XVIII^e siècle* Paris Blanchard. 1929 Pp 487 Fr 75 les deux.
- M. FOUCAULT *Premières Leçons de Psychologie expérimentale à l'usage des candidats au Baccalauréat* Paris Delagrave 1930 Pp 94 Fr 12
- R. JOLIVET *La Notion de Substance Essai historique et Critique* Paris Beauchesne 1929 Pp 335 Fr 50
- MM. JOLIVET BOYER MONNOT CAVALLERA ROMÉYER, and DE SINCETY *Etudes sur St Augustin* Archives de Philosophie Vol VII Cahier II Paris Beauchesne. Pp 77
- E. BREHIER *Histoire de la Philosophie Tome II La Philosophie Moderne Fascicule I Le Dix Septième siècle* Paris Alcan 1929 Pp 314 Fr 70
- L. BRUNSCHWIG *Les Étapes de la Philosophie mathématique* 3^eme ed Paris Alcan Pp 591 Fr 60
- ARTHUR O LOVEJOY *The Revolt against Dualism* London George Allen & Unwin Ltd. 1930 Pp xii + 325 15s
- E. V. RABALA *New England Essays* Boston The Four Seas Co 1930 Pp 191 5 dollars.
- GALVANO DELLA VOLPE *Il Misticismo Speculativo di Maestro Eckhart* Bologna Lucio Cappelli. 1930 Pp vii + 291
- SIR PETER CHALMERS MITCHELL, C.B.E., F.R.S., D.Sc. LL.D. *Materialism and Vitalism in Biology* (Herbert Spencer Lecture 1930) Oxford at the Clarendon Press 1930 Pp 30 2s
- CONSTANCE BLOOR, M.A. *The Process of Learning* London Kegan Paul Trench Trubner & Co 1930 Pp xii + 284 7s. 6d

INSTITUTE NOTES

THE syllabus for the Session 1930-31 is in course of preparation, and copies will be sent to all members in due course

The Session which has just closed has again been successful. The lecture courses have been of the best and the attendance good. The Evening Meetings have once more attracted good audiences to discuss important topics introduced by distinguished speakers. Dr. William Brown spoke on "Mind and Body", Sir Herbert Samuel on "The Dual Basis of Conduct", Mr G. Lowes Dickinson on "The Value of Art", Principal L. P. Jacks on "The Philosophy of Adult Education", Professor Leonard Hill on "The Philosophy of a Biologist", Mr Joseph Needham on "Religion and the Scientific Worker", Mr C. E. M. Joad on "Matter, Life, and Value".

NORTH WALES CENTRE

The North Wales Centre now contains twenty-seven full members of the Institute, as well as a fair number of Associates. But its influence has been wider, for the Public Meetings which it has organized since its formation have aroused considerable interest in Bangor and have been well attended, at Professor Alexander's meeting there was "standing room only".

The following was the programme carried out during the first two terms of the Session —

October 29, 1929 Public Meeting Professor S. Alexander of Manchester University on "Truth, Beauty, and Goodness"

December 5, 1929 Professor J. Daniel on "Some Questions Connected with the Problem of Freewill"

January 13, 1930 Mr J. D. Mabbott, Fellow of St. John's College, Oxford, on "Ideas and Idealisms"

March 14, 1930 Professor J. Gibson (Chairman of the Centre) on "The Idea of Value with Special Reference to the Views of Professor Moore."

A notable feature of the General Meetings has been the discussions which have followed the papers. It is hoped to hold one further meeting in the Summer Term.

Three Study Circles have met regularly during the Session, on Metaphysics, Ethics, and the Problem of the Self. One at least of these will continue its meetings during the Summer Term.

A. K. SROUT, *Hon. Secretary and Treasurer.*

THE NORTHUMBERLAND AND DURHAM CENTRE.

The outstanding event of the Session was the visit of Professor J. I. Stocks on November 1, 1929. His subject was "The Golden Mean," and his interesting and suggestive lecture was greatly appreciated by the members of the Centre and the considerable number of visitors who were present. The November meeting was the only open meeting. Monthly discussions have been held as usual, and at the first of these Mr M. V. C. Jeffreys read a paper on "The Idea of God" from the psychological point of view, which raised so many problems that it served as the basis of all the following dis-

cussions Interest tended to concentrate itself on the subject of values, and though it cannot be claimed that any very definite conclusions emerged, different points of view were presented and argued out very fully.

J. E. ALDERSON, *Hon Secretary.*

SHEFFIELD CENTRE

Ten meetings have been held during the Session, six of these being to hear and discuss Dr William Brown's broadcast addresses on Psychology and four being opened by papers delivered by local members. By the kind permission of the University Authorities the first meeting took place in the University, and thereafter Professor Lea offered generous hospitality and the use of his Wireless Receiving Apparatus for the reception of Dr Brown's addresses. On most occasions the attendance has been about twelve. Discussion has been keen and vigorous.

The following are the papers delivered —

- (1) *The Nature of Philosophy*, by Dr B M Laing
- (2) *Sumerian Psychology*, by the Rev J R Donald, M A
- (3) *The Glands in Relation to Human Behaviour*, by Professor A. E. Naish, M A, B Ch, F R C P
- (4) *The Place of Biology*, by the Rev J R Donald, M A

B M LAING, *Hon Secretary.*

CARDIFF CENTRE.

Two courses of seven lectures each were delivered during the winter months, from November to March, one by Professor Scott, on *Man and the State*, the other by Mr Thorburn on *Spengler's Restatement of the Aesthetic Problem*.

The lectures were given at University College, Cardiff, under the same conditions as the previous year, except that in the courses of 1929-1930 open discussion played an altogether more prominent part. Discussion seemed to elicit the interest of the public, and on one or two cases a genuinely philosophical treatment of the matter at issue was achieved through the medium of argument.

JOHN M THORBURN, *Hon Secretary.*

SEVENTH INTERNATIONAL CONGRESS OF PHILOSOPHY

(SECOND CIRCULAR)

The Seventh International Congress of Philosophy will meet, September 1 to 5 1930, at Oxford, England. The programme of the Congress will be as follows —

A—GENERAL PLAN

Monday Evening, September 1st

Opening Meeting. Addresses of welcome, and reply by Representative of Foreign Delegates

Tuesday, Wednesday, Thursday, and Friday, September 2nd to 5th Mornings, 9 30-12 30

Simultaneous Section Meetings in all Four Divisions

Tuesday Afternoon

General Session. Division A

INSTITUTIONAL NOTES

Wednesday Afternoon

General Session Division B

Thursday Afternoon

General Session Division C

Thursday Evening

Business Meeting

Friday Afternoon

General Session Division D

B--SESSIONS

Division A Metaphysics—General Session

Subject Are Recent Advances in Physics of Metaphysical Importance? '

Section 1

Subject Is a Philosophy of History Consistent with the Facts of History?

Section 2

Subject Must Biological Processes be Either Purposive or Mechanistic?

Section 3

Subject The Relations Between Metaphysics and Religion

Section 4

Subject Open Session

Division B Logic and Epistemology—General Session

Subjects (a) The Value of Recent Contributions to Logic
(b) Phenomenology '

Section 1

Subject The Nature of Perception and of its Objects

Section 2

Subject The Nature and Source of Non Perceptual Factors in Thinking

Section 3

Subject The Relation of Scientific Thinking to the Ideal of Knowledge

Section 4

Subject Open Session

Division C Ethics, Politics, and Aesthetics—General Session

Subject The Value of Ethical and Political Philosophy as Guides in Practice

Section 1

Subject Is the Distinction Between Moral Rightness and Wrongness Ultimate?

Section 2

Subject 'Is the Ground of Political Obligation Always one and the Same? '

Section 3

Subject Recent Suggestions in the Theory of Fine Art

Section 4

Subject Open Session

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Division D History of Philosophy—General Session

Subject "In What Respects has Philosophy Progressed?"

Section 1 Subsection (a) Ancient Philosophy

Subject "What is Alive and What is Dead in the Philosophy of Classical Antiquity?"

Subsection (b) Medieval Philosophy

Subject "The Philosophical Problems at Issue in the Thirteenth and Fourteenth Centuries"

Subsection (c) Oriental Philosophy

Subject What Contributions have been made to Philosophy by Eastern Philosophers (Including Jews and Western Arabs)?"

Section 2 Philosophy of the Seventeenth and Eighteenth Centuries

Subject "Has Kant by the Introduction of his Transcendental Method Rendered the Study of his Predecessors Unnecessary?"

Section 3 Philosophy of the Nineteenth and Twentieth Centuries

Subject Open Session

The following have already signified their intention to attend the Congress as speakers —

M Schlick (Austria), L Noel, E Dupreel (Belgium), D Michaltschew (Bulgaria), Jorgen Jorgensen, V Kuhr (Denmark), L Brunschwig (France), B Bauch, H Driesch, E Ungerer, N Hartmann, J Stenzel, A Liebert (Germany), S Radhakrishnan (India), B Croce, G Gentile, B Varisco, A Aliotta, G de Ruggiero (Italy), W Lutoslawski (Poland), G D Scraha (Roumania), R F A Hoernle, H G Stoker (South Africa).

In the General Session of each Division four Readers of Papers will be designated. The papers must not exceed twenty minutes, and discussion will follow.

In the Sections for which a topic is indicated, there will be four designated Readers of Papers, after which the topic will be open for discussion by other members of the Congress, but members who wish to read papers must send them in to the Congress not later than August 1st. The papers of designated Readers should not exceed twenty minutes, and other papers should not exceed ten minutes.

In the Open Sectional Meetings for which no topic is indicated, any members may contribute a paper provided that it is sent to the Committee not later than August 1st. These papers must not exceed fifteen minutes. The Committee will distribute papers sent in to them among the Open Sessions. All papers offered for the Congress must be in manuscript, or (preferably) typewritten, in a form ready for the printer, and must not exceed 3,000 words for the General Sessions or 2,000 for the Sectional Sessions. They should be sent to the Secretary and be in his hands before August 1st, and it is earnestly requested that they should be sent to him as long as possible before that date. If these conditions are observed, the papers by designated speakers will be printed and circulated to members before the Sessions and will be published in the Proceedings of the Congress. An endeavour will be made to do the same with as many as possible of the papers offered and accepted by the Programme Committee for the Open Sessions, but no guarantee of their inclusion in the published Proceedings can be given.

The recognized languages for papers and oral discussion at the Congress will be English, French, German, and Italian.

INSTITUTE NOTES

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THE EARL OF BALFOUR

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THE EARL OF BALFOUR

PROFESSOR A. WOLF

I His Life

ARTHUR JAMES BALFOUR was born at Whittinghame, East Lothian, on July 25, 1848. He was barely ten years old when his father died, and he succeeded to the estate. He entered Eton in 1862, and there met Lord Rosebery. In 1866 he went to Trinity College, Cambridge, where he studied philosophy under Henry Sidgwick. In 1869 he obtained a second class in the Moral Sciences Tripos. In an autobiographical note, written long afterwards, Lord Balfour made the following reference to his mental attitude as an undergraduate: "I went to Cambridge with a very small equipment of either philosophy or science, but a very keen desire to discover *what* I ought to think, and *why*. For the history of speculation I cared not a jot. Dead systems seemed to me of no more interest than abandoned fashions. My business was with the groundwork of living beliefs, in particular with the groundwork of that scientific knowledge whose recent developments had so profoundly moved the world." Considering his attachment to the past in matters of Church and State, Lord Balfour's contempt for the history of philosophy seems to betray a curious limitation. Unfortunately for him, the history of philosophy was not an important feature in the Cambridge philosophical curriculum, and the defect avenged itself by marring his subsequent philosophy in various ways. No doubt Sidgwick did all he could to encourage and develop Balfour's critical powers. Cambridge philosophy, under the influence of Sidgwick, was critical rather than imaginative, just as Oxford philosophy, under the influence of Green, was imaginative rather than critical. And, on the whole, Balfour remained essentially a philosopher of the Cambridge

school though with a leaning towards positive religion more typical of Oxford than of Cambridge. Be that as it may he certainly acquired a lifelong interest in philosophy. But for the influence of his uncle, Lord Salisbury Balfour would most likely have devoted himself almost entirely to philosophy. As it was, he repeatedly returned to the problems of philosophy whenever political conditions afforded him the necessary leisure.

Shortly after leaving Cambridge, Balfour became friendly with Gladstone and his family staying with them in December 1870 and on many subsequent occasions. In fact during the years 1871-1874 Balfour, Mary Gladstone, May Lytton and Spencer Lytton formed the nucleus of a select social coterie dubbed by outsiders as

The Souls. They devoted themselves arduously, and with all the enthusiasm of youth to self culture diligently pursuing music and other arts and enjoying frequent outings and intimate discussions, undisturbed by the week day world which had not yet discovered, or at least had not yet annexed them. It is to one of these "Souls" Mary Gladstone (afterwards Mrs. Drew), that we owe some of the few intimate glimpses of Balfour at that period. The impression one gets is that of a very sensitive young man, rather inclined towards sentimentalism or even hysteria, though always charming. Before long however he acquired such self-control that people sometimes suspected him of callousness, and wondered whether cold cream flowed through his veins instead of warm blood. Certainly when the Great War overwhelmed the world Balfour was one of the very few statesmen who did not suffer from hysteria.

In 1874 Balfour entered on his political career as M.P. for Hertford. Characteristically enough he did not make his maiden speech in the House of Commons until 1876. In this year his sister Eleanor married Henry Sidgwick, and in course of time made herself a name as Principal of Newnham College. In 1878 Lord Salisbury became Minister for Foreign Affairs and made Balfour his private secretary. In this capacity Balfour attended the Berlin Congress that year. Lord Salisbury had taken his nephew abroad already on previous occasions. To one of these Balfour made the following interesting reference some fifty years after the event: "I accompanied my uncle, Lord Salisbury, when he went to Paris in the first train that entered the French capital after the Commune was defeated in 1871, only a few weeks after the King of Prussia had been declared Emperor of Germany in the Palace of Versailles. I went then in a humble capacity, when Germany had the unquestioned leadership of Europe, and I have lived to sign on behalf of my country, as Foreign Minister, in that great gallery where the Emperor William first became Emperor, the Treaty of Versailles that ended the Empire to whose beginnings I have referred."

In 1879 Balfour published his first book, *A Defence of Philosophic Doubt, Being an Essay on the Foundations of Belief*. As the short title of the book was much more widely known than the book itself, and as some of those who read the book did not read it to the end, the author acquired a reputation for scepticism. This misrepresentation has continued more or less to this day, in spite of Balfour's protests that it would be rather more accurate to describe him as a defender of *credulity* than of *scepticism*. Anyway, Balfour was obviously deeply absorbed then in philosophic problems, and he actually decided to devote himself entirely to philosophy in case he was not re-elected to Parliament. But when the new elections took place, in 1880 (after the fall of Disraeli), he was re-elected, and philosophy's loss was the State's gain.

Soon afterwards Balfour became associated with the "Fourth Party," which eventually brought about Gladstone's defeat in 1885. Balfour's association with this party nearly wrecked his friendship with the Gladstone family. However, when Salisbury succeeded Gladstone that year he appointed Balfour President of the Local Government Board. The same year Hertford was deprived of Parliamentary representation, and Balfour was returned for East Manchester, which he continued to represent until 1906. Before the end of 1885 he was made Secretary for Scotland and a member of the Cabinet. The first great opportunity to show his mettle came in 1887, when he was appointed Chief Secretary for Ireland, and really governed it. He introduced and enforced such drastic measures of coercion that for a time he was nicknamed "bloody Balfour," and had to be under special police protection. But he at the same time did so much to improve the economic conditions in Ireland that History will surely describe him as one of her great benefactors.

The year 1891 saw Balfour's promotion to the leadership of the Conservative Party in the House of Commons, and his election to the Chancellorship of the University of Edinburgh. Next year Gladstone returned to power, and the Home Rule Bill was passed. Balfour strongly opposed this measure then, and really remained opposed to Home Rule for Ireland, and anything like it, even when long afterwards his own party agreed to the division of Ireland. He was a member of the Cabinet at the time, but sacrificed his conviction on the altar of "the doctrine of a United Cabinet."

Such leisure as was given to him by the fact that his party was not in power was again devoted to philosophy, and in 1895 there appeared his most popular work on philosophy, *The Foundations of Belief, Being Notes Introductory to the Study of Theology*. The book enjoyed the distinction of passing through five impressions within eight months—probably quite unique in the annals of British philosophy. In the new Parliament of that year Balfour was ap-

pointed First Lord of the Treasury, and urgent affairs of State occupied him fully for many years. The Jameson Raid (1895-96), the South African War (1899-1902), the death of Queen Victoria (1901) may serve to remind the reader of the character of the period. In 1902 Lord Salisbury retired from the Premiership, and Balfour succeeded him. He remained in office until 1905 and has to his credit the two great Education Acts of 1902-03, and the institution of the Committee of Imperial Defence (1904), which was destined to play a most important role in the years which followed. But on the whole he was not a great success as Prime Minister. Then, as now, the question of Tariff Reform was the dominant issue, and his Cabinet was divided. Chamberlain was an ardent Protectionist, Ritchie a Free Trader and each had his followers in the Cabinet. Balfour took up a moderate, middle position, not unlike Mr Baldwin's present attitude. But he could not keep his team together. When Ritchie remitted the shilling import duty on corn, Chamberlain seceded from the Government (1903), and for the next two years Balfour had to bear the brunt of the burden of the Cabinet. In 1905 the Government resigned, and at the elections in 1906 the Conservative Party was nearly swept out of existence. Balfour himself being defeated in Manchester, though a new constituency was found for him in the City of London. His unpleasant political experiences tended to estrange him from politics, and in 1911 he resigned the leadership of the Conservative Party in favour of Bonar Law. He was now more free to return to philosophy. Even during his busiest years he had never entirely relinquished his interest in philosophy and the philosophical aspects of science. This is clear from his interesting lecture on *Matter* which he delivered as President of the British Association in 1904. But he could do more now, and in 1914 he gave a course of Gifford Lectures, in Glasgow, on *Theism and Humanism* just before the outbreak of the terrible war, which was to try so severely people's faith in both theism and humanism.

In 1915 when Balfour was about sixty seven, he was called upon to render war service. He joined Asquith's Coalition Cabinet as First Lord of the Admiralty, and when Lloyd George displaced Asquith as Prime Minister and Lord Grey resigned the Foreign Office, Balfour consented to become Foreign Minister, though, considering his conception of a 'United Cabinet,' Mr Lloyd George's methods could hardly have been to his taste. In 1916 Balfour was awarded the Order of Merit for war service. In April 1917 he headed the first Mission to America to arrange co-operation against Germany's unrestricted submarine campaign. The Mission was more dangerous than may be supposed. The place of embarkation had to be changed at the last moment, on account of enemy submarines. At Dumfries station Balfour and his party were turned out of the train and lodged

THE EARL OF BALFOUR

at the Station Hotel in great secrecy, while arrangements were made for another boat to take them to Montreal as "the Russian Royal Family" (so their fellow-passengers were informed) An incident related by Sir Ian Malcolm is characteristic of Balfour When someone expressed relief that they had left the Dumfries hotel without anybody finding out that Balfour had been there, he protested "One person knew, anyhow" "Who on earth was that?" I gasped "My dear Ian, it was the lift-boy" "How could he possibly have known?" "Well, it is quite simple he brought his autograph book to my room and I signed it" After a dangerous journey amid mine-fields and icebergs, there followed a period of land-dangers, and on one occasion, when returning from a visit to Roosevelt, Balfour had a narrow escape from would be assailants whom the police seized just in the nick of time

In November of the same year (1917) there appeared the famous "Balfour Note," promising the establishment, after the war, of a "Jewish National Home" in Palestine As a war measure the motives which prompted it might not have been above suspicion Nor is the wisdom of it altogether beyond question, even in the interests of the Jews concerned There are two reasons at least which make some people anxious about the whole scheme On the one hand, Nationalist Arabs are apt to regard it as the cat's paw of British imperialism, and so vent on the Palestinian Jews the resentment which they cannot or dare not vent more directly on Britain On the other hand, there are certain British politicians who appear to consider it a cheap display of British friendship for the Arabs to connive at, or to condone, their pogroms of Jews But, be that as it may, there can be no question about Balfour's sincerity, or the purity of his motive He was always interested in the Jews, and it was his considered opinion that the Jewish people had contributed, and still contribute, more than their share of distinguished men in science, philosophy, art, medicine, politics, and law, as well as in finance and business Hence he supported Chamberlain's scheme for creating a Jewish settlement in British East Africa But in course of time he realized that the historical appeal of Palestine should not be ignored, and that Palestine was the only land of promise for the persecuted Jews of Eastern Europe Hence his "Declaration" when the opportunity came Incidentally we may note in this connection an interesting entry in Mrs Drew's diary for Sunday, August 13, 1871, when she and others were staying with Balfour at Whittinghame "Our host read well the 40th of Isaiah" (*Comfort ye, comfort ye my people, Speak ye comfortably to Jerusalem*) In 1925 Lord Balfour had the satisfaction of opening the new University of Jerusalem

In 1918, when the Supreme War Council was formed at Versailles to meet the supreme crisis of the war, Balfour spent many months

in Paris amid nightly air raids. When the nightmare was over at last and the Peace had to be shaped Balfour was the second British plenipotentiary at the Paris Peace Conference (1919) to which Clemenceau introduced him as the Richeheu of the Congress. After the Peace of Versailles (the peace with a vengeance) Balfour left the Foreign Office and became Lord President of the Council. In the same year he was elected Chancellor of the University of Cambridge in succession to his brother-in-law Lord Rayleigh. In the following year (1920) he presided over the first meeting of the Council of the League of Nations at Geneva and he remained the chief British representative on the League until 1922. His last great political service was in connection with the Washington Conference in 1922. On his arrival at Waterloo Station when returning from this Conference a letter was handed to him from the King conferring on him the Knighthood of the Garter and an Earldom.

For several years more Lord Balfour continued to render valuable public services in connection with the Imperial Conference, the Civil Research Committee, the Department of Scientific and Industrial Research, etc. In 1922-23 he delivered the second course of Gifford Lectures at the University of Glasgow, his subject being *Theism and Thought: A Study in Familiar Beliefs*. The foundation of the British Institute of Philosophical Studies in 1925 was greatly helped and favoured by Lord Balfour's consent to be its President. In his books he repeatedly championed the claims of common sense and of the wider interests of philosophy as against its professional tendencies. And he spared no pains to make his philosophical views as intelligible as possible to the general reader. The aims of the Institute were therefore after his own heart and it was fitting that he should lend the weight of his great reputation in the attempt to extend the interest in philosophical studies among his countrymen. Many readers will always remember and cherish the singularly stimulating presidential addresses which Lord Balfour delivered at the annual meetings of the Institute. Various other institutions likewise enjoyed the privilege of his active interest, notably the National Institute of Industrial Psychology. These two Institutes and the British Academy (of which he was President from 1921 till 1928) jointly presented a birthday gift to Lord Balfour on his eightieth birthday and his acknowledgment of the gift was characteristically modest and witty. He had then had his three score years and ten and another ten years extra. And what years of fruitful activity! He had himself become a national institution and the news of his illness evoked universal regret and sympathy. The end came on March 19, 1930 and the world mourned him.

Of Lord Balfour's philosophy an account will be given in the next section. But it is obvious that a man's philosophy cannot be entirely

divorced from his life, even if it also calls for a more detailed treatment. There have been many thinkers whose philosophy was their life, their whole life or at least the pith of it. Such could hardly be the case with an active statesman like Lord Balfour. And yet, bearing in mind all that is known of him, it seems clear that philosophy did play an important rôle in his life. His views may be open to criticism in detail, and his insight into the great historic systems of philosophy may leave much to be desired. Still philosophy is something more than a set of doctrines or a learned knowledge of its history. Above all, it is a certain attitude towards life and reality. And as one recalls that graceful and serene figure, pursuing life's path in quietness and confidence, undaunted by strong opponents and weak friends, one realizes something of the practical side of his faith in the spiritual character and significance of the universe. His philosophical writings were one and all directed to the vindication of the spiritual in the world of reality, while holding fast also to the reality of the material as common sense and science apprehend it. That philosophic faith transformed for him the pursuit of goodness, beauty and truth into phases of eternity, and enabled him to face calmly the "clings and arrows" of time.

II HIS PHILOSOPHY

Lord Balfour was what he himself called a "dabbler in many subjects" rather than a specialist in one. This is no disparagement, for the republic of knowledge has need of both. With the growing tendency towards specialism, the present age has perhaps particular need of the "dabbler." The danger is, of course, that interest in many subjects may involve certain defects. Lord Balfour certainly failed to understand adequately some of the things which he discussed. "Probability" was one of them, the philosophy of Spinoza was another. Moreover, he never professed to construct, or even to recommend, a philosophical system. He did not think it possible to construct a satisfactory system *in our present stage of development*. His philosophical ambition was limited to the adoption of some mental attitude or "point of view", and a provisional one at that. The point of view which he adopted, and stoutly defended in all his writings, was the religious, theistic, or spiritual point of view. His defence of this standpoint assumed mainly, and especially in his earlier writings, the form of an attack on opposed views, which he, rather unfortunately, lumped together under the heading of "naturalism"—a term which was a kind of King Charles's head among Cambridge philosophers of his generation. So the main philosophical conflict, as he conceived it, was between Spiritualism and Naturalism. Perhaps it was natural for a politician brought up

under the two party system thus to array all philosophical systems into two opposed camps. Anyway, that was how he regarded them.

It is an old platitude that a man's views are moulded largely by his intellectual environment or 'climate.' Nobody has insisted on this with greater emphasis than Lord Balfour did—though both the idea and the name are found already in Joseph Glanvill, a muddle-headed writer of the seventeenth century. It is therefore well to note that the conditions into which Lord Balfour was born were such as might very well have predisposed him to be satisfied with things as he found them. This may have had no little share in his conservatism in religion as well as in politics. And 'climate,' or the spirit of the age, not only helped to mould his views, but also presented him with the occasion for expressing them. The last decades of the nineteenth century were eminently years of "conflict between science and religion." And Balfour's philosophy is best understood as an attempt to take sides in this conflict—on the side of religion, of course.

The title of his first book, *A Defence of Philosophic Doubt*, and a great part of its contents, have induced some people to regard its author essentially as a sceptic, or even as a free lance. His early skill in mimicking the style of such a serious book as Butler's *Analogy of Religion* and his dialectical subtlety in debate, may have helped to confirm that impression. Balfour himself, however, always repudiated this conception of him. And the sub-title of his first book, as well as the contents of all his subsequent writings, certainly clear him fully of the charge of intentional scepticism. The real purpose of his first treatise may be indicated as follows. The famous collision between Huxley and the Bishop of Oxford over the question of Darwinism at the meeting of the British Association in 1860, had introduced a good deal of extra bitterness into the strained relations between the spokesmen of science and those of religion. In one form or another the controversy continued for many years. Even in 1885 and 1886 Huxley and Gladstone were still discussing Evolution and *Genesis*. Balfour must have heard a good deal about the "conflict between science and religion" during his student days. What impressed him deeply was that everybody assumed that the teachings of science were beyond question. Even the defenders of religion seemed to make this assumption, and confined their efforts to explaining away every apparent contradiction between religion and science. What Balfour wanted to know was why conformity with the teaching of science was regarded as an essential condition of truth. While at Cambridge he studied the logic of science as expounded in J. S. Mill's *System of Logic*, and came to the conclusion that the credentials of science were no better than those of religion. And in his *Defence of Philosophic Doubt* he tried to show that science itself is not as rational as is usually supposed, that it is really a

creed having no stronger basis than religion has His sceptical attack on the foundations of science was planned in defence of the foundations of faith and the book was written with a good deal of religious feeling, as the following excerpt shows 'Even could I command the most fervid and persuasive eloquence, could I rouse with power the slumbering feelings which find in Religion their only lasting satisfaction, could I compel every reader to long earnestly and with passion for some living share in that Faith which has been the spiritual life of millions ignorant alike of Science and Philosophy — this is not the occasion on which to do so I should shrink from dragging into a controversy pitched throughout in another key, thoughts whose full and intimate nature it is given to few adequately to express, and which, were I one of those few would seem strangely misplaced at the conclusion of this dry and scholastic argument' Even in his Gifford Lectures, many years later, he did not seek to go beyond 'the position occupied by uncritical piety and simple faith' So much for his alleged scepticism

The chief contention of *A Defence of Philosophic Doubt* was that the two main "creeds" by which human life is regulated, namely, religion and science, should be regarded as resting in the main on separate bases, and that discrepancies between them must not be considered as bearing more heavily against religion than against science In his later books Lord Balfour went beyond this rather scholastic divorce between the two realms of thought, and endeavoured to unify them In fact he declared it to be his sole philosophic aim to bring reason and belief, that is, science and religion, into the closest harmony that seemed practicable His main contention was always that if we want to take science seriously and save it from the destructive scepticism to which it is exposed, then we must assume the existence of God as the source of such knowledge On one occasion he contrasted his own attitude with that of Descartes 'Descartes,' he said 'rests the belief in science on a belief in God I rest the belief in God on a belief in science' The difference is perhaps not so great as he supposed But his main point is clear He was not really sceptical about science He admittedly shared the conviction that common sense beliefs and science, which is a development of common sense beliefs, are, if not true, at least on the way to truth But he insisted that the only way to justify such a conviction was to place it in a theistic setting which preserved its intellectual value In the writings which followed *A Defence of Philosophic Doubt* the arguments concerning science and religion remained essentially unaltered, but the case for religion was much elaborated by showing that æsthetics and ethics, or art and morals, can only be taken seriously if, like science, they, too, are placed in a theistic setting Let me now endeavour to give a brief outline of

Lord Balfour's chief arguments in connection with each of the three main departments of human interest—truth, beauty, and goodness

In the realm of knowledge the teachings of science are commonly regarded as the best established, and, according to some, as fully justified by reason. Men of science fully approve Locke's view that no proposition should be entertained with greater assurance than the proofs it is built on warrant. Huxley even proclaimed scepticism to be the first duty of a man of science, and credulity as his greatest crime. But what are the facts? Science merely assumes that there are external, persisting things, that natural phenomena are causally connected, and happen according to invariable laws. These are treated as *ultimate* assumptions, for which no reasons are, or can be, given. But then they may all be false. They are really accepted on trust. Again science is professedly based on experiences (observation and experiment). From experience it sets out, and to experience it returns in the formulation and verification of its explanations. Like common sense, it begins by supposing that things really are what we observe them to be in perception. Thus already glosses over a host of problems connected with perception, including those relating to the possible modifications introduced by the physiological processes involved, and such as may be due to the mental processes which follow. All these things are extremely obscure. But, to crown it all, the conclusions at which science arrives are to the effect that the things perceived are in themselves totally unlike what they appear to be in our perception of them. Things perceived as solid, gaily coloured, sweet scented, of various temperatures, etc., are all reduced to systems of electric charges which cannot be perceived at all. Thus the conclusions of science appear to contradict its perceptual data. Again, according to science, human capacities have come to be what they are, by evolution and natural selection, because they enable man to feed and breed successfully. How can we expect them at all to solve merely theoretical problems, which are of no survival significance? Scrutinized on these lines, does not science appear to be little more than an incoherent, unwarranted body of beliefs? Strange to say, even scientists and philosophers continue to perceive things in much the same way as simple folk do, and to make the same sort of assumptions about the persistence of things, their causal connections, and so forth. This can only be accounted for on the assumption that these beliefs are produced by the same *causes* in all men, however different may be the *reasons* alleged. But this can only account for the apparent *inevitableness* of the beliefs in question, it is no proof of their *accuracy*. The only way out of the tangle, according to Balfour, is to assume that all knowledge draws its inspiration from God, that God is the ultimate cause that produces in us those "inevitable" beliefs, and guides human

reason to its highest results, which are not restricted to the bare needs of human survival, but are part of the ascent of man to his higher destiny "Reason and the works of reason have their source in God "

In the view of many people, Lord Balfour was most interesting when he spoke about the philosophy of art That is not surprising From his early days he was devoted to music Mr Drew's diary contains some interesting evidence of this One or two extracts may interest the reader "He was passionately musical, but so far (1870) his appreciation was chiefly confined to Handel and Bach, and it was a fascinating occupation revealing to him the more modern composers, Beethoven, Schumann, Brahms, and even Wagner Nothing on earth no drug nor stimulant, can be more intoxicating than the power of putting anyone into a seventh heaven of happiness by playing to him And in this form of intoxication it was a joy to indulge " Again, on December 13 1871 (the same Sunday to which reference has already been made in another connection), she reports "To day we played the *Messiah* from start to finish He really manipulates his Internals wonderfully " Frequent attendance at concerts, and a special journey to the Music Festival at Dusseldorf, are referred to during the following years He was also interested in other branches of Art, and always spoke of them with the warmth of genuine æsthetic appreciation In the light of such experiences it seemed to him incongruous to accept a merely mechanical or quasi-mechanical explanation of the origin of our feelings of beauty "We cannot acquiesce in any attempt at explanation which confines itself to the bare enumeration of psychological and physiological causes and effects We cannot willingly assent to a theory which makes a good composer only differ from a good cook in that he deals in more complicated relations, and arouses our feelings through a different sense " He insisted that art is essentially *expressive*, that is, it must convey a message from the artist to the recipient who contemplates or enjoys the work of art Art, in other words, involves spiritual *communion* But, it may be objected, what about the æsthetic enjoyment of the beauties of Nature? There is no artist here, and explanation must seemingly confine itself to geological and other physical factors But Balfour would not admit this Our admiration even for natural beauty, he insisted, ' longs to regard beauty as a revelation—a revelation from spirit to spirit, not from one kind of atomic agitation to the 'psychic' accompaniment of another " Similarly History—to say nothing about historical drama and historical novels—has an artistic side, and our æsthetic sense revolts when history is presented as "a tale told by an idiot, full of sound and fury, signifying nothing " But only a theistic setting Balfour held, can save æsthetic values ' When we look back on those too rare

moments when feelings stirred in us by some beautiful object not only seem wholly to absorb us, but to raise us to the vision of things far above the ken of bodily sense or discursive reason. We must believe that somewhere and for some Being there shines an unchanging splendour of beauty, of which in Nature and in Art we see, each of us from our own standpoint only passing gleams and stray reflections whose different aspects we cannot now co-ordinate, whose import we cannot fully comprehend, but which at least is something other than the chance play of subjective sensibility." Accordingly when Strauss and others urge the modern mind to seek refuge in Art as a substitute for Religion, *Balfour protests* that 'if they shatter the old values they cannot permanently preserve the new. If beauty is to retain its worth it must be the product of design and behind the delight in beauty there must lurk, however vaguely the consciousness of a designer.' And this is true not only of the beautiful creations of human art, but also of the beauties of Nature. Aesthetic values if they are to survive, must have their root in God and in God they must find their consummation, if their promise is to be fulfilled.

Lord Balfour's treatment of the moral sentiments follows the main lines of his treatment of aesthetic appreciation, and he appeals, besides to some of his arguments in connection with the "inevitable" beliefs of mankind. Moral values have a certain advantage over aesthetic appreciations. Whereas aesthetic tastes differ so widely that it is deemed wise not to dispute about them, there is comparative agreement in moral judgments. Just as in the realm of knowledge things are perceived in the same way by people who hold very diverse theories of knowledge, so in the realm of conduct people who hold the most diverse views as regards ethical theory agree pretty well both as to what the practical demands of morality are, and as to the sentiments with which they should be regarded. The effectiveness of the moral code, very imperfect though this effectiveness is, shows that the code inspires emotions of reverence. That which is noble attracts even the least noble. That which is base repels even the basest. Courage and self-sacrifice evoke our warm sympathy and our blood tingles at the recital of some great deed. The voice of conscience is commonly regarded as authoritative even when it is disobeyed, and morality is esteemed as a thing of intrinsic worth. Is all this congruous with the view that moral conduct and moral sentiments are the blind outcome of natural selection? Can the highest loyalties, the most devoted love, the noblest self sacrifice be regarded as the waste product of the process of adapting the human organism to its environment? Lord Balfour rejected the suggestion and demanded that the origin assigned to the higher morality and moral sentiments must be more congruous with their character.

"Selection," he insisted, "must be treated as the instrument of purpose, not simply as its mimic Theistic teleology must be substituted for Naturalism " "Ethics must have its roots in the divine, and in the divine it must find its consummation "

The three main lines of argument thus converge to show, according to Lord Balfour, that all we think best in human nature, whether associated with knowledge, beauty, or goodness, requires God for its support, if it is to retain its full value And God, as he conceived Him, is a God between whom and finite spirits there is something that can be described as a personal relation He is on the side of Truth, Beauty, and Goodness and guides cosmic evolution in that spirit From Him flows the inspiration which assists the growth of knowledge æsthetic joy, and love from their primitive beginnings, ' through the dimness of our present twilight to a future of unknown splendour '

Such, in barest outline was Lord Balfour's "point of view " It is not free from difficulties Thus he realized, and drew attention to some of them, especially the difficulty, common to all religious systems, that ' the evils or the defects against which the Creator is waging war are evils and defects in a world of His own creating " In effect, he also conceded, to those who fight shy of bold cosmic speculations, that Truth, Beauty, and Goodness retain an intrinsic value even without such a theistic setting as he preferred to give them "With or without a theoretical support, admiration and love are the best and greatest possessions which we have it in our power to enjoy " Moreover, Lord Balfour never professed to do more than suggest a provisional point of view Criticism would therefore be out of place, especially in a sketch like this, which is not meant to be more than a slight memorial of the first President of the British Institute of Philosophical Studies

SCIENCE AND ART (II)

PROFESSOR S ALEXANDER

It has been explained how science, with the freedom which makes it an art uses ideas of its own construction, and that they are verified by nature shows them to be directly or indirectly, at differing degrees of remoteness congenial to and so far inherent in the material which is the subject matter of the science. Take, for an instance, *velocity*. It is expressed by the ratio of two integers which measure distance and time respectively. Now a ratio is a construction of the mind, and it does not exist in external things in the sense in which universals must be said to belong to them and have in one way or another been held to belong to them since the time of Socrates, or at least Plato. Even if we agree that the integers themselves are given to mind and not created by mind their ratio implies the intervention of mind, and does not inhere in the integers themselves. But though velocity does not inhere in things, it corresponds to and stands for something which is found alike in all moving things and varies in the moving tram and the sea-plane in a Schneider race.

Now in fine art the ideas which the mind supplies and, in a sense to be explained introduces into its work of art and expresses in the material of the fine art, wood or stone, paints or tones or words, are not congenial to the material, and are not, consequently, in any sense verified by the material itself, in the absence of the creative or appreciative mind. There is, therefore, in fine art (and I am now going to say art simply when I mean fine art) an element of illusion. The mind imputes to the material a quality which it does not possess apart from the mind.

For simplicity in exposition I will begin with representative art—leaving the question of pure form in art to come later—and in particular with sculpture, because the problems there arise in a more obvious form. In the statue of Hermes or the bust of the Oticoli Zeus the sculptor has imported into the marble not only life but divinity. He has done this by the shape he has given to the marble, the lines and planes and volumes of the figure. At any rate, the shape he has given it is such as to mean life and divinity, and is in fact the shape assumed by a living and divine thing. He has imported meaning into the marble which as marble it has not, has imputed to it qualities not congenial to marble as such. Only in the presence of the mind has the marble this meaning and the mind actively imputes the meaning to the block.

Contrast this now with ordinary perception, which is the basis of

science All perception involves imputation What we see in an orange is its colour, and we feel its texture, and in a qualified sense we see and feel a part of its real spatial form But what we perceive is the orange containing many characters of taste or smell, and others spatial in nature not displayed at once to sense To take the stock example of Mill's, the thing which I recognize as my brother is only partially seen, as a certain moving shape, all else is supplied by the mind Only if I am not the victim of an illusion, what the mind supplies is actually in the object seen, and is verified by further experience or examination I can open the orange and taste it, and identify my brother not merely as a man, but as a certain individual man

Let us go a stage further to that elaboration of perception by thought which is science The interpretations which it uses may be very remote from the material of sense or thought, but they are verified There is no illusion in science or true knowledge except of course so far as we err and must revise our science Take so simple a thing as the harmony of sounds or colours What science tells us about these things is the numerical relations of the vibrations which belong to the sounds These relations describe the reality which gives us the pleasure of harmony, and so understood, harmony is not a scientific interpretation or category, but an æsthetic one For in science the mind itself stands outside the nature which it observes, and though it makes a work of quasi art by interpreting nature, which thus is not nature herself but as she is for the mind, the mind's interference is instrumental and not constitutive Take now a much less simple illustration Science by its interpretations produces coherence in its material This comes about through the mind's intervention For there is no coherence in nature herself except in those cases where nature is organized in a natural system But science organizes its material, and the material verifies this organization The imputation is shown to be true, as the imputations of ordinary perception are The work of art is obviously coherent But the coherence is not a property of the marble, and though it belongs to the marble as a physical thing, it does not do so except the mind is there so to interpret the marble Science makes its material, its data, coherent by so treating them They fall into their places in an organized system, and accept the organization attributed to them But the coherence of the statue is not accepted by the statue It owes its coherence to the mind which finds it beautiful, or receives from it as so fashioned the satisfaction of the æsthetic sense Even as a mere physical thing it is not coherent and still less organic, it is the mind of the spectator or of the creative artist which gives it a coherence which it does not itself possess It is organized only in so far as it means organic life to the mind.

To put the case in other words, the material of science is also its subject matter, the subject matter of art is different from its material. In the statue the subject-matter is Zeus, the material is marble, and the idea of Zeus is not intrinsically congenial to the marble. Even in purely formal art, (and with qualification, all art is formal) there is as we shall see, a subject matter which does not belong intrinsically to the marble, but only belongs to it through the mind's imputation. Whereas in science, subject matter and material being one, necessarily the imputations made by the mind are rearrangements or simplifications of the subject though the process of manipulation of the materials may be very indirect. The statue is an idea imposed upon a foreign material, a science is ideas exhibited in a congenial material, or material exhibited under the illumination of congenial ideas. In science the subject does not come from the mind but from the material, the mind uses ideas cognate to the material in order to clarify the material. In art the subject is provided by the mind and is expressed in the material.

I have used language implying that in science the data of perception are non mental, that colours and tones and other secondary qualities are characters of external things, and at the same time have said that their harmonious arrangement is an æsthetic contribution from the mind, corresponding to the pleasure which such harmony excites in the mind. It may be objected that sensations are commonly treated as subjective or mental. Now I do not desire to raise general philosophical questions. Let all the data of sense and thought be treated as mental or subjective if you will. There will still within this mental world be a distinction to be drawn between the mental data which are given to an individual mind and those which it adds to the given material, and it will still be true that in science the ideas added from the side of the mind are directly or indirectly all of a piece with the given ideas, and that in art the reverse is the case, and there will be still the distinction to be drawn between mental ideas such as red and experiences such as pleasure, which belong to the mind as a self with a body, and it will remain true that no ideas comparable to pleasure, and therefore properly belonging to the mind as such and not to the mind as the medium for ideas of external things, are introduced by science into nature, as would be the case if it were true that science depends on ideas like permanence derived from the mind's own habits.¹ The metaphysical question is indifferent to us here.

But it leads to an important reflection which has been perhaps too long delayed, but which is necessary to add now lest the notion of imputation here so repeatedly used be misunderstood. When it was said that art differed from science by the mind's introduction of

¹ See before I, pp. 344 ff (this volume July number)

ideas, the stress lay on the introduction of ideas in art into a foreign matter, while in science the ideas introduced were introduced into a congenial matter. It was not implied that in art any more than in science the mind introduced ideas or elements derived from its own nature, like pleasure or anger or sorrow, or even the pleasure of harmony (to hint a case which will be discussed later). What the mind introduces into the marble bust of Zeus are ideas about an external thing like a God or, say, ideas of dancing maidens into the pigments used to make the picture of Spring. These are not ideas about mind but about things though it may be added the sculptor may represent in marble a pleased or angry man if he so desires, or the lyrical poet may sing of love. When we impute to what we see in ordinary perception ideas derived from our previous experience of the thing which we are taking in at first as merely a vague whole with certain visual elements distinct, the ideas we add are on the same level metaphysically as the sensible data to which they are added by way of imputation. The ideas added to physical sense data are of the rank of physical existence or, in order to avoid subtleties, let me say that by ideas added to sensible data, I mean merely the qualification of those sensible data by what is contained in the ideal supplements. The orange colour is qualified by taste, the seen front of a form is qualified by the idea of a back, and so on. In other words, what is introduced into the material is not that feature of ideas which makes them purely mental, but that feature which the idea or thought of a man shares with the perception of a man.

It is of great importance to realize this, for otherwise our description of art (and indeed that of science too in a minor degree) would be a mystery instead of something simple. We saw that science was a department of nature as possessed by mind, but that the mind was controlled in its quasi artistic creation by the material. It added nothing from its own nature, though it added abundantly from its resources of cognate ideas. In the work of art we have also a possession of the material by mind, but the relation is much more intimate. For the control is here a twofold one, from the side of the mind and from the material itself. The most important element is that of imputation from the mind, which supplies the subject or subject matter. But there is also control from the material, wood or words etc., in which the artist works. He can only do what his physical material allows. And he may be limited by the nature of that material. It is an open question whether a sculptor can render everything which a painter or a poet can, and certainly Lessing held that the material of the art restrained the artist to certain subjects. At any rate, it would seem that even within a given art the material compels a different treatment. For example,

some designs in terracotta are heavy in stone, and some designs in stone (e.g., walls with great blank spaces) may look trivial or unmeaning in terracotta or possibly in brick. Thus the artist is controlled both from the side of the material and that of the artist, and the work of art is thus truly a kind of amalgam of mind and material. In science, as we saw the mind's part, though vital, was instrumental or ancillary. In art it is primary.

It is clear then that both in science and in art we have, through the action of the mind, new realities introduced into the world. Science consists of the real world remodelled by the mind with the help of cognate ideas. If anyone prefers to say science consists of thoughts about a remodelled world, I raise no objection, provided it be remembered that thoughts are not acts of mind called thinkings, but objects of those thinkings, and thus ordinary realities though remodelled. Art is a close mixture of a material block of marble or other physical material with mind in the sense that the material receives a meaning which it could not have except for its inspiration by mind. But such an amalgam of material thing and mind implies no ludicrous fusion of the thing called mind and the physical marble. For the thing called mind is a system of acts by which the mind reacts on its surroundings as an animal reacts. They are behaviour, that is, are processes of brain with conscious quality, though reposing on other processes which are without consciousness, and which may be, by some are, included within the name of mental. Now it is not such mental acts which in a way which would be perfectly unintelligible are amalgamated in the work of art with the physical material, but the objects of such acts, or, to call them by a generic name, ideas in the Lockean sense of that word.

One consequence of weight follows from this statement. Under the name of empathy or *Einfuehlung* an alleged process has been designated by which in art the mind identifies itself with the material, feels itself into the material. In this way the artist's or the spectator's life is transfused into the block, or, to take a familiar example, the pillar is felt to be springing up to bear the weight of the beam, and consequently the height and girth of the column are adjusted so as to give the impression of a weight not too great and not too small for the strength of its support. Now that ideas of this sort do enter into the work is not only true, but is a valuable discovery of the author of the theory of empathy, Lipps, and I regret that I am not able to linger over the theory in his exposition of it. It has bearing on the conception of art as an expression of the artist which I shall presently discuss. But in the version which is given here of the amalgamation of mind and material in the work of art, no such conception is implied. All that is meant is that ideas, which the artist may have acquired in particular cases from experience of

himself, but not necessarily and mostly not, are introduced into the material by his chisel or his brush or voice, or whatever instrument he uses for his work. Thus when he infuses life into the marble he takes an idea of life which he may get as easily from a plant or a dog as from himself. He is not so much expressing himself as using himself to supplement the material by ideas which may be got from anywhere, but being foreign to the material could not be suggested by the material, but are supplied from the store of his experience. Only in this sense is there fusion of physical material with mind and thus is no mystery, but is performed every moment in perception of things.

One difficulty, however, remains, and it leads on to an important feature of art. The marble is infused with life or divinity, though itself dead: *viros ducunt de marmore tollus*. But no miracle is performed by which the marble lives and breathes. It looks alive or divine, or it looks a girl stooping to tie up her sandal. And yet the work of art remains physical, for I omit for convenience a conceivable work of art made out of mental states, where the material is still physical though it is also mental. Art consists of actual stone or words or tones or pigments. How can the marble look living and yet be actual marble? The answer is that what the marble expresses it expresses not by being marble, but by its form. The artist so shapes the stone that it assumes the form of that which it means or signifies, life or divinity or motion (as in the statues of Harmodius and Aristogeiton, to take another example). The relations established among the parts of the marble are the relations of the objects or ideas which the artist is expressing.¹ The form still is the form of the material, but it expresses as the effect of the chisel a significance due to the artist. Significant form has been described by a school of theorists on art (Mr Fry, Mr Bell) as the object of aesthetic judgment and rightly. Only it has to be understood as form of the material, and secondly as signifying something. I am particularly concerned to emphasize it here because it removes the paradox that the artist makes the marble live and move or cry. Even then there is still the mind required to be present, in whose absence the marble would be a piece of stone shaped indeed in a certain way, but as meaningless as we may suppose it to be for a rabbit. Without the mind it has only the meaning of being marble.

¹ I state the matter more explicitly elsewhere (*Hibbert Journal*, July 1930, and *Proceedings of the Aristotelian Society*, forthcoming volume, 1929-30, Art. I\N) by saying that the artist translates (or transfers) the form of his subject-matter from that material into his own material. The form is identical in the two different materials so far as such identity is possible. Only it will be observed that the form of the subject matter is not the form of that material (e.g. the subject of a portrait) as it exists apart from the artist's treatment of it, but of that subject as the artist conceives it in the course of his work upon it.

SCIENCE AND ART

strong man to another The first is Hamlet's famous dying words to Horatio —

If thou hast ever borne me in thy heart
Absent thee from felicity awhile,
And in this harsh world draw thy breath with pain
To tell my story

The second is the Pope's words to Caponsacchi: —

Ruminate,
Deserve the initiatory spasm once more
Live be unhappy, but bear life my friend

The form is different with the occasion In both cases beauty has been attuned

The form of the subject matter is in this way embodied in the form of the material in which the artist works, that is to say, its design, for shape is too limited a meaning to attach to form And just as the design of the material implies the material, so does the form of the subject matter imply the subject-matter, though not in respect of its "material qualities," that is, not in respect of the qualities which are foreign to the material of the art The form of the subject is always correlative to a so-called content When the form of the art is not the form of the subject, then we have the confessedly lower kinds of art which are symbolical, such as allegory. In such cases the real beauty of the art arises from its own proper form, which is the form of the subject allegorical of the suggested subject For instance, the *Fairy Queen* is a poem of consummate beauty in itself and irrespective of the virtues and vices for which the figures stand No reader cares about them, but only about the persons in so far as they enter into the poem

In the next place it follows from the necessarily formal character of all art that the difference of representative art and formal art is not a distinction of kind but of degree For reasons of convenience of exposition I began with representative art But we have now seen that the represented subject enters into the art only through its form, which is embodied in the design The significance introduced by the mind flows as it were through the hand with chisel or brush, or through the voice or other instrument of the art, out into the material When form is set in antagonism to representation, as it is by many theorists, what they are really opposing is not the subject, which always exists, but the "material" characters of the subject represented And no doubt the antagonism has been stimulated by the illegitimate moralizing of art, in which the æsthetic judgment is perverted in the interest of another art which is not fine art, just as truth is not, namely, the art of life or morals Avoid

this mistake and the antithesis of representative and formal art disappears evidently enough from the single instance of poetry, which is necessarily representative, and yet owes its beauty to its form as I illustrated a moment ago. In other words, in representative art itself it is not the suggested characters of the work of art which enter into its beauty, but the formal characters which can be transferred into the material. Thus we have a gradation from highly representative art where suggested characters are unavoidably present though not judged æsthetically, with greater and greater recession of these suggestions until we arrive at art in which, as Mr Collingwood has pointed out (*Journal of Philosophical Studies*, vol. iv, 1929, pp. 338 foll.), the mere shapes of things become the subject matter of the art. As he says wittily, an artist may be interested in the femininity of a woman or in her volumes, but he may make her volumes as such his special subject. But two things must be observed even so. First, that if he is interested in her femininity he can still but create in his material the form of it. Secondly, if he is interested in her shape, mere shapes of themselves, though they may be a proper subject of art, do not make a work of art but only their design or the blending of them into a whole. Thus form is always the essence of the work of art, but form means design, not shape merely. Mr Vernon Blake assures us that in French there is no confusing *forme* with bare geometrical shape. With what success the creation of beauty can be achieved when the subject is shapes which reduce to the minimum the suggestions of the subject, I am not well able to judge. That art is on its trial.

The nearest approach to the art of shape that has passed into accepted art is the art of arabesque. How little representative art is separated from formal art in kind is clear in this instance. For arabesques are for the most part conventionalized forms of real things and I understand that many of them may have had originally a ritual significance, like the familiar beautiful Greek border. What is more important still for our purposes is that the beauty of them, too, lies in the design in the flowing of parts into one another, in the motion which they æsthetically involve—none of which things belong to the lines themselves, but are a significance imported into them by the artist. Even when the artist has made his work, these characters belong to the arabesque only if the mind is there to do the artist's work again in appreciation.

But the question is best raised in music. (Architecture has so much in common with music that the appositeness of its description as frozen music is apparent, though paradoxically enough architecture can never be severed from its highly representative quality of utility.) The contrast there takes the form of the distinction of programme or dramatic music from absolute music. So far as I can

judge (and I regret that I know so little of music), music verifies what has been said hitherto of the other arts. He would be a bold man who, in the face of Beethoven's practice, should deny that music can be representative. But those who say that music has no meaning except the sounds themselves in their relations would still be in the right. For the beauty of the representative music lies not in any suggested meaning but in the art whereby the musician, say Beethoven, has created his subject in the foreign medium of his tones. Hence it is as I imagine that, before Wagner at least, even the mixed form of art which is opera is so indifferent to the artistic quality or even the intelligible sense of its libretto. I do not wonder at the violence of the opposition of Schopenhauer, and later than him the musical critic Hanslick, to the emotional music of Wagner. But let us turn to absolute music, which has no subject but the tones and their relations—certainly does not portray pictures or is directed to express human emotion. It has no life except in its medium. Neither, I would add, has any other art, and we have seen this is so because only so can significance be imported into the medium by the mind. But Hanslick himself, while furiously denouncing the alleged emotional meaning of music, does not deny it meaning, but asserts for it the meaning appropriate to tones, namely, movement. Lotze has gone a stage further than Hanslick, while avowing himself ignorant of music as an art, and regards the movement in great music as corresponding to the great tides of movement within the universe. This vague though sublime interpretation perhaps introduces the very irrelevance which Hanslick's more careful doctrine guards against. Perhaps Lotze has allowed the dream of a philosopher to creep into music as others have allowed emotion. And it is doubtful, I should think, if even as suggestion such ideas are present in all the great music. The motion of which Hanslick speaks is not the motion which is found outside, but that of the tones themselves. He is thinking, like Milton (who was a musician though indeed Milton has immortal verse married to the music which is thus not absolute), of "notes with many a winding bout of linked sweetness long drawn out, untwisting all the chains that tie the inner soul of harmony." Now it is this design of the notes which lends them their meaning. And that meaning, it is not so unnecessary to insist, is not intrinsic to the notes themselves, but requires the interpretative mind.

This is not so easy to see. It will be replied at once, granted that the artist must have had the meaning in his mind before he chose these notes in this combination, but once the music is there, the blending of the notes, their rhythm, and their harmony are surely in the notes themselves, just as much as the steam engine does its work intrinsically, though it would not do so except for the design

in the builder's mind.¹ The instance is not on the same footing as what it illustrates. The engine does its work apart from the man who made it and the man who feeds it, it is half an organic body. But there is no movement or flow or harmony in the tones except so far as they affect the mind in the particular way suggested by those words, in other words, till the mind notices their relations so described and in so doing creates these relations. Thus a tone may occur thrice in a certain time: there are three such tones with equal intervals of empty time, or time containing another tone repeated twice. These relations are intrinsic to the tones as so disposed. But that physical fact is less than rhythm. It has first to be taken notice of, as it may be in various ways, *e.g.*, by setting the body jiggling or exciting a certain pleasure in the mind. Order is in the things which are ordered when once they have been ordered. But the order belongs not always² to the things by themselves (before they were ordered) though they accept that order and contain the grounds of it: and still less does the order give the impression of rhythm. In like manner a harmony among notes has, no doubt, its physical basis in the numbers of the tones: but the harmony is a quality imputed to the tones so ordered in virtue of the pleasure they excite. The same thing applies to the harmony of colours: the harmony belongs to them because they please after a certain fashion. Take a different instance, again from colour. It is easy to think the purity of a pure colour is a property of the colour itself. In reality its purity is the apprehension by the mind that there is no admixture of other colour, and this freedom pleases. Or the mind may feel the contrast with impure colours. If this is true where we are dealing with very simple combinations of colours or tones, how much more do the complicated movements among tones in a sonata imply a mind which gives them this movement. The hidden soul of harmony is imputed to it by the mind which discovers it. And I repeat that if you answer that the tones themselves are in the mind, you do not alter the situation. The meanings of them, their transitions, and harmonies and rhythms belong to a different region of the mind (a personal region) from the tones themselves.

So, too, in architecture, the pressure and resistance of the beam and column are physical facts belonging to the stones as ordered. But the grace or ease of the sustinment is an attribution of the æsthetic judgment, grace does not belong to the column, but is the meaning of the product so far as it is artistic.

¹ This refers to an article in *Mind* xxxviii No 150, April 1929 by Mr A C A Rainer.

² *E.g.* succession belongs intrinsically to father and son and a place is intrinsically between other places: but a KCB has no intrinsic precedence over a KBE: that is an order of institution.

A further problem arises out of this statement that beauty is always formal in the sense indicated, the problem, namely, of degrees of beauty or of æsthetic attainment. It is not so easy as I may seem to have made it, when, insisting that the material character of the subject does not enter into beauty, I said that beauty is indifferent to the subject. Any subject may become beautiful in the treatment, a repulsive face like a demon in a Last Judgment or a repulsive character like Iago's or Iachimo's or Caliban's. From this it follows that technique is not to be depreciated as a mere means to the attainment of art, but technique is the essential of art, because it is the creation of form. At the same time, it is not to be understood too narrowly as if it meant, for instance, in sculpture mere skill of hand, such as enabled Apelles in the story to draw a finer line than his rival. It includes the facility to use the instrument in obedience to whatever it is that animates the artist, not merely minuteness of perfection, but, say, the large sweep of hand or of speech which is needed to embody the subject in the form of the material. It was from this point of view that I likened the science of logic pure and applied to the technique of the artist.

Still there remains something paradoxical in this conclusion, that beauty is beauty, wherever art succeeds in catching it, in the meanest and the greatest topics alike. As a matter of fact we speak of great art and contrast it with the lower reaches of art, and are clearly referring to the subject-matter. This is, no doubt, what is in the mind of those theorists who regard beauty not as a discernibly separate character of works of art, design, or form, but regard it as consisting of ideas grouped in a certain fashion. This conception is expressed in Arnold's famous saying that poetry is criticism of life, and his refusal to Omar Khayyám of the title of great poetry because he portrays a comparatively low standard or ideal of life. The difference between this attitude and that which I have adopted may be put otherwise thus. According to the second, as I shall if possible explain later, there is a specific æsthetic sentiment—which does not, of course, exist without the other sentiments (material sentiments) evoked by the subject—directed upon the form, according to the first view æsthetic experience of a subject-matter is ordinary experience of it adjusted internally so as to secure harmony.

The solution of the disagreement is found in distinguishing between the beauty of art (which is either there or not and has no degrees, though it may be attained only ineffectively in faulty art) and its greatness or largeness, or, to use an ambiguous but useful term, "perfection," which has degrees. Subject-matter may be important or trivial, serious or light, profound or shallow. For an artist is not only a workman but a man, and his interests may be great or small,

and his imagination, besides its harmonious design, may in one man be comprehensive and penetrating, in another may play over the surface of tiny if delightful objects, or it may vary in the same person between "the baseless fabric of this vision" and the picture of Queen Mab. When we set up degrees of art we are blending in one judgment the beauty and the degree of the perfection or largeness of the subject, in judging the greatness of an artist or of a work of art, we combine these two elements. And a defect in one may be compensated by a merit in the other. Greatness in the subject may set off some failure in workmanship, this word being always understood in its fullest extent, or exquisiteness in the workmanship outweigh thinness in the topic. Hence it is that so perfect an artist as Jane Austen may not count so high in the scale of literature as Scott or Dickens, whose workmanship is so often defective, but whose minds are larger and their subjects more important. In this way degrees of greatness of art are to be found, just as in conduct, while there are no degrees of virtue or goodness: there are degrees of merit or perfection according to the magnitude of the task: the widow's mite is as generous as the millionaire's munificence, but it is, to use an Aristotelian term, less splendid. So, too, art may vary in splendour according to its subject.

If we bear in mind the difference between the formal character of art and the material characters of the subject, which are not transferred to the artistic medium but only affect its form, we shall be better able to approach the question or questions of the relation between the artist and his work. One question has been already raised under the head of empathy. There I tried to remove the idea that the artist's mind itself was in some strange way fused with his material. We saw that the work expressed the artist merely in the sense that he conveyed into the material ideas supplied from his mind about the subject. Art cannot but be expressive of the artist because he makes it, and the more of a person he is the more will he be reflected in it and the greater or more important will be the significance of the work, and according to his way of viewing the thing he depicts will be the form it assumes. But this is all the truth that proposition contains, and over and above its directing our attention to the fundamental contribution of the mind to art, it is little more than a truism. It is far more important to say that art is expressive of its subject, the significance being discovered and supplied from the artist's mind, and that the great artists are those who can so skilfully render the form of their subject (or can invent forms which are their subject), as to bring out its deepest significance. By which I do not mean necessarily significance in relation to us, but import in general, in the scheme of things. For example, the horses of St. Mark's or that of the Colcom statue, now much talked of in

connection with a recent controversy The things most interesting for us are, of course, those that bear on our life, and human beings themselves But "Rain, Steam, and Speed" is not less expressive for not being specially human, it is expressive of what it sets out to express, as much as *Othello* or the speeches of Thucydides There may be great art which is concerned to express the feelings of the maker as lyrical poetry or the emotions of a situation, which is so common in romantic art Even then it is not the artist so much who is expressed as his human nature

The position of feeling or emotion in art is, indeed, often mistaken Sometimes it is said that the significance of art as distinguished from science or conduct is emotional In obedience to the psychological separation of intellect, will, and feeling, art is regarded as the expression of our emotional experience The distinction is, however, made upon a false basis Intellect, emotion, and will enter into all our experiences, and emotion, which is obviously engaged in morals, is not absent from scientific production The three directions of our activity are distinguished rather by the three different impulses, all involving intellect, will, and emotion, though in varying degrees, which inspire them It would take me too far to dwell on these impulses They are that of curiosity which leads to science, of sociality which leads to ordered moral conduct, and, if I am not mistaken, that of constructiveness which leads to art¹ The artist is not merely finding out the nature of something given to him, but constructing in an alien material something of which the suggestion is found in his experience As in the picture of Turner quoted above, the experience may not be primarily emotional at all Nor is it so primarily in the famous crossing of the Simplon in *The Prelude* But while the scientist dissects the artist creates, or better perhaps he recreates a world, and it appeals to us with all the feelings it produced in him when we view it after him Art is marked essentially by the contribution to it from the mind, and appeals intrinsically to man But though the whole man to whom it appeals responds to it with emotion appropriate to its topic, neither does it confine itself to the depiction of emotions, nor does it exist in order to excite those emotions It exists to make stone or words significant, and it is an incident of that significance that it re-excites the emotions which attend the contemplation of the subject in the mind of its creator But the emotion both on the side of the artist and on the side of the spectator is not so much constitutive of the artistic experience as incidental, though necessarily incidental to it, what the logicians call an inseparable accident The extreme form of the mistake which I am discussing is Tolstoy's doctrine that art is successful just as

¹ See on this subject *Art and Instinct* Herbert Spencer Lecture Oxford, 1927

in so far as it conveys to the spectator's the same material emotions as were in the artist's

Neither is it true that the origin of art is to be found in the emotions of the artist which it is there to express. The famous saying of Wordsworth that poetry springs from emotion recollected in tranquillity owes its value to the second half of the phrase. For emotion recollected in tranquillity is purged of the sensuous sting of the present passion, and is better fitted therefore to be the source of the contemplative work which art is. The artist is set free to handle his medium with aloofness. Not that such emancipation from sense is always necessary: if we may trust Goethe it was from the passion itself that he sought relief in his lyrics to Lili, and underwent catharsis of it in the strict medical sense of that word which is intended in Aristotle's definition of tragedy. But not even the emotion cooled by time is always the driving force of the artist's production. That it is so often may be conceded, as in all lyrics or in the nature poetry which is coloured with our moods (as constantly in Wordsworth). We cannot suppose that Shakespeare felt in his person necessarily the emotions of his characters: nor even if we may follow Browning's judgment which contradicts Wordsworth's, that in his sonnets, however personally they be interpreted, he unlocked his heart. The suggestion may have lain in cool contemplation of the emotions, the sufferings or exultations of others or even of himself or consideration of the procedures of nature however touched with his sympathy. What is the emotion of the description of Queen Mab except the delight of working out the phantasy?

The last exception tells us what appears to be the truth of the matter. The raw or material emotions even as curbed by recollection may indicate what may be, but need not always be, present in the artist's mind, but they do not account for his creative expression in his medium. Do these material passions seize the brush hand or touch the lyre? In Collins' ode it is the effect of the passion in the violence with which anger sweeps the strings which is recounted, not on the form of the music. It must be that under the stress perhaps of emotion but quite as often perhaps without any marked emotion but from consideration of a theme, the poet or other artist is excited into the kind of excitement which seizes the chisel or brush or bow. Even the voice of the tranquil passion does not of itself overflow into poetry. It is the voice excited by the lyric passion of verse making. Some motive is needed other than the passions, which uses perhaps the passions but expresses only their form and constructs only their form. For this reason though poetry consists of spoken significant words and to be valued duly must be read or spoken aloud, there is some danger lest the material emotions which the

voice is apt to arouse in the hearer may drown the really æsthetic product which is the form or design of the language

I have arrived at a point from which it would be natural to contrast the different excitements or impulses which lead the mind to produce science on the one hand and beauty on the other, and we may add the further "value" of goodness. I have hunted what these sources are, but I must leave untouched the fuller treatment of these sources and the process by which from practical impulses we arrive at the disinterested pursuit of truth, beauty, and goodness. I have attempted the task elsewhere.¹ For the same reason of lack of room, I must leave two at least of the many problems not yet touched. One is the question how the ideal significances imputed by the mind to its art are introduced into the material of the art. I have used vague and general language which says that the mind introduces ideas supplied from itself. In what form are these ideas supplied, in the form of images preceding the creation in the medium—images of the work of art itself preceding its translation into stone or words, etc.? Or, if images are absent, in the form of thoughts? Or besides the excitement induced by the subject-matter and the fixing of attention on that subject, whether on some thought or image of the subject or as in portrait-painting on the subject itself, does the excitement induced by the subject proceed without images or thoughts and set going in the mind processes which, when allowed to develop freely, would lead to the image or thought of the elements contained in the work of art itself, but in fact are in themselves more or less below the level of consciousness, and only lead to consciousness of their goal when they have actually, through hand or voice or instrument, attained their end and imbued the marble or rather its form with significance? About this question I have spoken elsewhere.² And there is the further question of beauty of nature and how it is related to beauty of art.³ Is nature by itself beautiful or does it become so through intervention of the mind by selection? If the second is true, beauty in nature differs from art only accidentally and not in essence. Nature is beautiful because we select from nature those parts or elements which harmonize.

Lastly, there is the question whether there is or, as I have assumed, there is not any fundamental difference between the attitude of the artist in his creation and of the spectator in his appreciation. If the second is correct, the spectator constructs his art after it has been presented to him by the artist and throws him-

¹ *Art and Instinct* Herbert Spencer Lecture Oxford, 1927

² *Art and the Material* Adamson Lecture Manchester, 1925 And *British Journal of Psychology*, vol. xvii, Part 4 1927, "The Creative Process in the Artist's Mind"

³ *Art and Nature* (from *Rylands Bulletin*) Manchester, 1927

self at the leading of the work of art into the same frame of mind from which the artist started Just as in admiring the beauty of nature or natural objects we are recognizing a work of art already in part made for us in nature in part selected by us by an act of creation

These questions I must pass by and revert to the fundamental likeness and difference which I have attempted to indicate of science and art Both alike are artefacts and imply a blending of the mind with its material Both exist only so far as the mind possesses the reality with which it deals Both create new realities in the world But the intimacy and kind of amalgamation is in the two cases very different Science is a work of art controlled by Nature herself and only attained by obedience to her according to the old Baconian precept In fine art there is twofold control both from the side of mind and of the material And therefore the way in which these highest values are created is more obvious and easily seen from fine art where control is reciprocal than from science where control is one-sided or it may be added than from morals where the control is again one sided being exercised by the mind and not as in science by nature But this completer statement is beyond my limits¹

¹ See *Hibbert Journal* July 1930 'Truth Goodness and Beauty

(Concluded)

THE PROBLEM OF ARTISTIC PRODUCTION

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THE main problem which I wish to discuss in this paper may be set out in the form of a very simple question. It is this: What makes an artist—whether he be painter, sculptor, musician, poet, or anything else—desire to produce a work of art and to go on working until he has done so?

The question is simply enough put, but the answer is not at all simple—at least if the variety of answers to a question is any sign of the difficulty in answering it, for many answers have, in fact, been given to this question. In illustration, I will cite one or two. It is said sometimes that art is the elucidation of a subject-matter. The poet tells stories, or he sings of love, of nature, or even of general ideas like 'duty' or 'immortality'. Painters represent landscapes and human beings. It is held that these or other things are the 'inspiration' of art, that art must be 'inspired by subject-matter, and (perhaps) that art is a kind of imitation. Again, it is alleged that the artist constructs his work of art because he desires to communicate something to others, or because he desires to make something permanent, or because he wants to 'express himself'. Or it is argued that art finds its real motive in some instinct—in play, or construction, or sex, or, again, that art springs 'from the unconscious'. What I intend to do here is to try to state some positive things which seem to me to be true of artistic motivation. I shall not have space to deal with any of the theories just cited, but perhaps some light may fall on them incidentally and by the way.

One idea about art, which in some sense is perhaps common to all theories, is that art must have 'inspiration'. The notion is evidently an important one, and for this reason, and because inspiration is usually rather vaguely conceived, it will be useful to begin with a brief consideration of what it may mean.

The ancient sense of the word 'inspiration' is well known. It is, of course, that the artist produces his work through the agency of some Being superior to himself, say, a God (or Goddess), a Muse, or perhaps an Angel. Inspiration means 'breathing into' the Muse or other Being: it was thought, breathed the music or the poem, or whatever it was, into the artist's soul for his transcription. Though this notion no longer has the potency it had, we still speak of a person as being 'inspired' when he appears to utter things which seem to come not from himself, but from some agency or power.

beyond him. We speak of 'inspired' speech or 'inspired' action. Artists have often testified to the feeling that their best work seems to come from a source 'outside' themselves. And in the sphere of religion the idea still has some importance.

But what is often, more prosaically, meant by 'inspiration' to-day is illustrated by quite a different interpretation of the metaphor of 'inspiration' or 'breathing into'. We say that Wordsworth was inspired, not by an Angel or a Muse, but by Tintern Abbey or by the River Duddon. We mean that these perceived objects stirred and stimulated Wordsworth into production. In terms of the metaphor, it is not another animate Being who breathes into (say) the poet, but he himself who breathes. What he experiences is like a fine mountain air, intoxicating him into song.

On this interpretation the term 'inspiration' means the conscious apprehension of some object¹ which is such that an artistic process is set going. But 'inspiration' may also have a wider, more general, sense. It may mean simply the immediate motivation of art, whether by conscious apprehension of an object or by any other means. As our topic here is general motivation, we had better postpone any consideration of the narrower and more special sense, and consider first the wider one. We may keep in mind the special question, Do the immediate conditions of artistic production include, as essential, the conscious apprehension of some 'inspiring' object? Arts like painting and poetry are commonly supposed to be inspired by an object, but others certainly do not seem to be so inspired, or at least it is difficult to discover definite inspiring objects, definite subject-matter (outside the art itself), of a good deal of music and dancing or of arabesque or architecture. But this problem cannot properly be discussed now and by itself. Let us turn, then, to the general problem.

What sets the artist going? In one sense, everything. The cause of the artist's production includes a vast conglomeration of circumstances. It includes all the conditions of his past life, his state of body at the time, and his state of mind at the time—conscious or dispositional. It includes all the circumstances giving rise to the inspiring object, which, strictly speaking, may imply the whole history of the universe up to the time of the event. Most of these things, however, are not in the least interesting for the theory of art. We may let them alone. The things we are interested in are the *immediate* conditions which set the artist going and the conditions which keep him going once he has started.

The basic fact about the aesthetically equipped person, which differentiates him from all other highly developed human beings, is a great sensitivity to the suggestiveness of perceptual material.

¹ Including persons and events.

The perceptual material is always tending to set his imagination working. The moralist may have a keen sense of moral values, the religious mystic of a Presence behind all phenomena, but for the artist, who is the type of the æsthetic person, it is values as embodied in perceived stuff which matter. For short I will call this perceived stuff 'material' (there need be no confusion of this 'material' with the 'material' which is the object matter of physics). To the artist, then, whose body is disposed to be keenly alive to sensuous impressions, who is keenly discriminative of them, and whose mind is quick to apprehend the valuable meanings with which to his imagination, the material appears to be charged, the material is a stimulant. It stimulates into activity needs which are experienced as 'desires'. The needs demand fulfilment (or the 'desires,' satisfaction) and they may find it partially in the apprehension of the stimulating material. Thus the sound of 'tuning up,' or of a few odd notes of his theme played by a violinist before he begins his recital, both whets an appetite to hear a more satisfying sequence of sounds and at the same time partially fulfils this need. That fulfilment does, so far, occur is indicated by the fact that we enjoy the notes which we hear. But if the preliminary skirmish whets and satisfies, it whets more than it satisfies, or it whets in satisfying. It whets desire for a fuller fulfilment and a fuller enjoyment. If the notes happen to be the notes of the first few bars of a trio the notes played will 'demand' the next phrase, and the next, and the next, and so on, stopping nowhere short of the end. Whilst the music is in progress, we are at every moment becoming satisfied by what is given. But the very thing which satisfies us is itself a demand for more. Its expressiveness satisfies, but it is an expressiveness of instability, of the instability of experience, of life itself. Instability demands stability, but this is not found before the end. And when the end is reached, we see that it is not, paradoxically, the end but the process of reaching it—in other words, the lived æsthetic whole—which is satisfying. Æsthetic experience is not the stopping or ending of a process, but a life of appetite and satisfaction more intense than ordinary earthly life, and rounded to unearthly perfection.

The tendencies which are stirred, fulfilled, and stirred again by the apprehension of this phrase or that, are tendencies both of the organism and of the mind. The values expressed are both organic and mental. And further, as well as the direct expression of these values, there is 'indirect' production, by the process of fused association, of images of valuable experience of all kinds.¹

The same general statements are, of course, true of arts other than

¹ Exactly what these values are and how they become expressed is a long story into which I cannot enter here. I hope to return to the subject shortly in a book.

music. They are true of painting, for example. The perception of a shape—say the shape of a cedar-tree—stirs, and partially fulfils, certain bodily and mental needs. Its structure, its colour, its grace, its dignity are pleasing. We may draw it, stressing this and eliminating that, the drawing making for a more vivid realization of the values selectiveness making for their purification from irrelevancies. But the isolated tree though satisfying, is inadequate, unstable, it must spring from its earth, it must grow in a setting. To show up the beauty of its volumes, its planes, and its lines, we may, in our drawing set it forward against the background of an old house. To emphasize its black blue green foliage we make it stand out against the whitewashed walls of the house, to emphasize the severe grace of its form we introduce other, more delicate, foliage in contrast. To balance the shadows of the house we introduce an old wall in this corner or that. And so the picture grows from one fascinating instability to another, till it is complete. The whole is a unified embodiment of many values which as a whole does possess stability, and which is something in which we can remain without temptation to wander outside its boundaries.

This is the schema of how a work of art may arise, starting off with the perception of some stimulating material. But the initial process may be reversed. Instead of the need being awakened by the perception of the material, artistic construction may be started by some other object. It may be started by an idea, or by some other object or event which is not material. Anything which stirs what we call 'an emotion' may set the artistic process going. It may be a vague feeling of mortality or of spring, or of the sublime, or of a general *joie de vivre*, or it may be some purely fortuitous circumstance—such as a fit of irritation. But very commonly the initiating agents are inspirations in the more usual sense, the conscious apprehension of interesting objects. The 'inspiration' might be an example of a work of art in the artist's own medium. More probably it would be something else. The painter need not be motivated, in the first instance, only by the visual in other art or in nature. He may be stimulated by music, by poetry, by ideas, by persons, or by natural objects of a non visual kind. So, likewise, the musician may be stimulated to compose by objects other than auditory ones. Debussy has said, I believe that 'it is more profitable for a musician to watch a fine sunset than to listen to the Pastoral Symphony.' The musician may thus be stimulated through vision, or he may be stimulated through the medium of friendship (e.g. Elgar's *Enigma* variations), through ideas, or, indeed, through anything which interests and stirs him. Such interests may be very vague and undefined, or they may be definite.

We commonly say that such inspiring objects, whether vague or

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definite, 'arouse emotion,' and that emotion is the 'dynamic' of artistic construction. Superficially this is true, but only superficially. If the 'hormic' psychology is true, then what is awakened or stirred by the inspiring object is not *primarily* feeling or emotion, but need or tendency. Tendency is experienced as vague unrest, as desire which demands fulfilment and satisfaction. Fulfilment and satisfaction in *this* case can only be obtained through the production in some medium or other of a system of perceived objects which (through all the complicated processes involved in 'expression') is found to fulfil and satisfy in the very contemplation of it the awakened needs. Thus sunset colours and forms waken, in a Turner, needs which can only be fulfilled by means of selective painting. In a Swinburne they stir the need to make a system of harmonious satisfying words which, to the poet's imaginative mind, somehow fulfil the needs awakened by the very different visual material of the sunset. In a Debussy, the appetites whetted by perception of the sunset can, perhaps be fully satisfied only through the production of a system of harmonious (and disharmonious) sounds. The apprehension of the completed music, and that only, can for the musician, fulfil and satisfy with full enjoyment the needs awakened by the selfsame sunset, which is (approximately) common to all three artists—the painter, the poet, and the musician.

Why should the same object initiate such very different processes? Why should a sunset¹ stir painting impulses in one man, verbal impulses in another, and music-producing impulses in a third? The only possible answer to such a question—if it be an answer—is that the several artists are so *made* that this happens. The painter is so made that, when his needs are awakened, their fulfilment tends to flow out along the channels of his interests in colours and shapes—of his painting activity. Inspire the poet and he breaks into words, harass the musician, or fill him with woe and sorrow and tragedy, or with rapturous joy, and he will, under certain conditions, so construct sounds that they express the profoundest values of his being. He may produce a symphony which stirs and satisfies and gives a special kind of pleasure, 'musical' pleasure, to his—and our—hungry soul. 'They are *made* in that way.' To say this is to say no more than to say that with which we started, namely, that the basic fact about the artist is that his body and mind is peculiarly sensitive to this material or that, and to its suggestiveness. The artist's vocation is to be specially aware not of values in general, but of values embodied and (to him) embedded in material X or Y or Z.

Another side of the same thing may be noted. It is the fact, not so much that special organisms have special capacities for special

¹ No doubt we are all tired of the illustration. Yet sunsets do, in fact, appear to have stimulated real artists—sometimes!

materials, but rather that special materials make their own demands, and set their own marks and limits, upon æsthetic expression. It is vividly expressed in the following passage by Bosanquet: "Why," he asks, 'do artists make different patterns, or treat the same pattern differently in wood carving, say, and clay modelling and wrought iron work? If you can answer this question thoroughly, then I am convinced, you have the secret of the classification of the arts and of the passage of feeling into its æsthetic embodiment, that is in a word the secret of beauty

'Why, then, in general does a worker in clay make different decorative patterns from a worker in wrought iron?' . He goes on: 'In general there can surely be no doubt of the answer. You cannot make the same thing in clay as you can in wrought iron, except by a *tour de force*. The feeling of the work is, I suppose, altogether different. The metal challenges you, coaxes you, as William Morris said of the molten glass, to do a particular kind of thing with it, where its tenacity and ductility make themselves felt. The clay, again, is delightful. I take it, to handle, to those who have a talent for it, but it is delightful, of course, in quite different manipulations from those of the wrought iron. I suppose its facility of surface, how it lends itself to modelling or to throwing on the wheel, must be its great charm. Now the decorative patterns which are carried out in one or the other way, of course, be suggested *ab extra* by a draughtsman, and have all sorts of properties and interests in themselves as mere lines on paper. But when you come to carry them out in the medium, then, if they are appropriate, or if you succeed in adapting them, they become each a special phase of the embodiment of your whole delight and interest of 'body and mind' in handling the clay or metal or wood or molten glass. It is alive in your hands, and its life grows or rather magically springs into shape which it, and you in it seem to desire and feel inevitable. The feeling for the medium, the sense of what can rightly be done in it only or better than in anything else, and the charm and fascination of doing it so—these, I take it, are the real clue to the fundamental question of æsthetics "'

The material, then, is of central importance. It is the more necessary to stress this, even to harp on it a little, in that some of the writings of Croce have given rise to a widespread, and unfortunate, impression that material is not, æsthetically, of the first importance. This impression is certainly widespread. I do not think it is altogether justified as I shall show, but it certainly exists. Its popularity is perhaps partly due to the fact that the apparent 'spirituality' of such a doctrine is always likely to appeal, through its emotive associations, to dabblers in philosophy and art. But the impression that, for Croce, material embodiment is unessential, is not confined

to popular opinion.¹ It is the interpretation of first-rate experts like Bosanquet.² Perhaps, because the matter is so important, I may be allowed to quote still further from Bosanquet. Bosanquet alleges that Croce is so possessed by the idea that beauty is for and in the mind that he forgets that "though feeling is necessary to its embodiment yet also the embodiment is necessary to feeling. To say that because beauty implies a mind, therefore it is an internal state, and its physical embodiment is something secondary and incidental and merely brought into being for the sake of permanence and communication—this seems to me a profound error of principle, a false idealism. It meets us however, throughout Croce's system, according to which 'intuition—the inward vision of the artist—is the only true expression. External media he holds, are, strictly speaking, superfluous so that there is no meaning in distinguishing between one mode of expression and another (as between paint and musical sound and language). Therefore there can be no classification of the arts, and no fruitful discussion of what can better be done by one art than by another. And æsthetic—the philosophy of expression—is set down as all one with linguistic—the philosophy of speech. For there is no meaning in distinguishing between language, in the sense of speech, and other modes of expression. Of course, if he had said that speech is not the only form of language, but that every art speaks to us in a language of its own, that would have had much to be said for it. But I do not gather that that is his intention." He goes on to say that Croce's notion is "deeply rooted in a philosophical blunder." The blunder is "to think that you can have them completely before your mind without having their bodily presence at all. And because of this blunder, it seems fine and 'ideal' to say that the artist operates in the bodiless medium of pure thought and fancy, and that the things of the bodily world are merely physical causes of sensation, which do not themselves enter into the effects he uses."³

I have cited Bosanquet and referred to Alexander to show that the impression which Croce has left on distinguished minds is a very clear and definite one. No doubt other examples might be found of its incidence. Personally I believe that it is extremely doubtful whether Croce really means a great deal of what he says, particularly in his earlier work, the *Æsthetic*. Croce is, of course, an idealist, and holds a special view of the ontological status of material and of its relation to minds. But, apart from this, it does not appear that Croce, on the whole, intends to deny the importance of embodiment in material as much as he seems to do in certain places. There are many passages which point in the opposite direction.

¹ Limited popular opinion of course.

² Cf. also Alexander, *Art and the Material*, pp. 10, 16, and 17.

³ *Ibid.*, p. 67 sq.

⁴ *Ibid.*, p. 69.

⁵ Footnote, *supra*.

It is true that Croce continually ignores the dependence of imagining upon perceiving, that he forgets,¹ in speaking of Leonardo's painting with his mind, that Leonardo's visual images could exist only in so far as constructed out of perceptual data. He fails to see that this is true of the images of words, or statues, or music, and that without the fact of willing, of willing to "utter by word of mouth," to "take up the chisel," to "stretch out our hands to touch the notes of the piano"—the word or the statue or the musical motif "within us" could have no existence at all. In other words, *what* is imagined is the 'material,' and imagination of the material is based on perception of the material.

Nevertheless, if we may pass over what appears to be what Bosanquet calls a "sheer blunder," we shall find that Croce does continually insist on the necessity of embodiment—in his own sense. This is much more clearly and unambiguously expressed in the *Breviario*² than in the *Æsthetic*. It is illustrated in the following extracts: "The content is formed and the form filled,"³ the "feeling is figured feeling and the figure a figure that is felt"⁴. Again, "a musical image exists for us only when it becomes concrete in sounds—a pictorial image only when it is coloured." It need not be actually declaimed or performed or painted but "the words run through our whole organism, soliciting the muscles of our mouth and ringing internally in our ears, when music is truly music, it trills in the throat and shivers in the fingers that touch ideal notes."⁵ "If we take from a poem its metre, its rhythm, and its words, poetical thought does not, as some opine, remain behind, there remains nothing. Poetry is born as those words, that rhythm, and that metre."⁶ Again, "How little does a painter possess of the intuitions of a poet, and how little does one painter possess those of another painter."⁷ Again,⁸ "Artistic imagination is always corporeal." It is a pity that such unexceptionable statements should be negatived in other parts of his writings by confusions and ambiguities arising from what certainly will appear to the majority of present-day thinkers to be a false view of knowledge.

The idea that 'real' embodiment is an æsthetically irrelevant circumstance⁹ is seen perhaps with most force in Croce's views of artistic production. The making of the work, for Croce, is a practical, and not an æsthetic, activity, it is a "translation of the æsthetic fact into physical phenomena (sounds, tones, movements, combinations of lines and colours, etc.)"¹⁰. The translation exists merely for the

¹ *Æsthetic* Ainslie's translation p. 10

² Translated by Ainslie under the title of *The Essence of Æsthetic*

³ *Op. cit.*, p. 40

⁴ *Ibid.*, p. 40

⁵ *Ibid.*, p. 43.

⁶ *Ibid.*, p. 44

⁷ *Ibid.*, p. 49

⁸ *Ibid.*, p. 49.

⁹ *Æsthetic*, p. 51.

¹⁰ *Ibid.*, p. 96

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purpose of making permanent the product of the artist's spiritual labour, and for the sake of communicating it to others "The artist... is a whole man, and therefore also a practical man, and as such takes measures against losing the result of his spiritual labour and in favour of rendering possible, or easy, for himself, or others, the reproduction of his images, hence he engages in practical acts which assist that work of reproduction"¹ These practical acts he calls 'technical'

I have said enough to show that, æsthetically, actual embodiment is absolutely essential, and is not a mere means to 'communication,' 'reproduction,' 'translation' If this is true, then technique, which is a means to æsthetic embodiment, will not exist primarily for the sake of 'translation,' 'communication,' 'reproduction,' but for embodiment itself These other factors *may* also enter in as ends, perhaps always But they are not, I believe, intrinsic and essential parts of the æsthetic I am going to assume that æsthetic embodiment is the prime aim of technique, and that æsthetic embodiment is, æsthetically, an end in itself

Here there arise questions of some interest Is technique itself *merely* a means to embodiment, or may it have in itself an æsthetic value? Again, does technical knowledge and skill affect or influence our appreciation of art, and if so, how far? And, how far and in what ways does technical knowledge and skill affect the work of the artist? Let us take these questions in turn

In the meaning of the term 'technique' I include all the practical activity, involving various degrees of skill, which can be said to be at all relevant to the making of a work of art The first question is, Is such technique *merely* a means to actual æsthetic embodiment, or can it possess in itself an æsthetic value? Can we say, as is said by a recent writer,² that in artistic production the artist does "not have an æsthetic experience at all," because he is not "content to remain absorbed in rapt contemplation of the beautiful object"? Is the completed beautiful object the only æsthetic object? May not the process of making be an æsthetic 'object' of its kind?

It is, of course, perfectly plain that the object which the artist contemplates in the finished work is distinct from the object he contemplates when he contemplates himself making And it is necessary to recognize further two things The first is that both *are* contemplative activities, that the process of making can be contemplated just as much as the *finished* work, though in a different way And second, we must remember that contemplation itself is not an inert or inactive state of mind, but is discriminative, synthetic,

¹ *Essence of Æsthetic* p 45

² A C A Rainer, 'The Field of Æsthetics' *Mind*, vol XLXVIII No 150, p 165.

actively imaginative. Only in the one case this mental activity is directed towards a finished, or partially finished,¹ product, in the other case it is directed towards a practical process of production.

We have, then, two kinds of objects of possible æsthetic contemplation (1) a finished or partially finished, product, (2) a practical process of producing. In the latter class it is useful, I think, to distinguish further between (a) that producing activity or technical process which *immediately* leads to the finished production, and (b) the technical process or processes more *remotely* connected with the finished production. Examples of the former would be the actual mode of laying on the paint or of touching the notes of the key board, or of bowing in violin playing. Examples of the latter would be the mixing of the pigments, or the preparing of the canvas, or the practice of mechanical exercises producing manual dexterity. Between (a) and (b) there can, of course, be drawn no hard and fast line.

(1) and (2) (a) and (b) are our possible æsthetic objects. As regards (1) there is no dispute. Are (2) (a) and (2) (b) ever actually æsthetic objects? I think we may say with absolute certainty (a) that to the working artist the technical process *immediately* leading to the production of the finished object, or of a stage of it, *may* sometimes be an æsthetic object. Whether it is so or not would appear to depend partly upon the stage of production of the art, and perhaps of the kind of art itself. The actual playing of passages, the actual drawing or painting of important parts of the picture, are very likely to yield æsthetic pleasure. The roughing out or laying on of a wash do not seem so necessarily to involve this. It is probably the case that the more immediately dependent upon technical excellence is the æsthetic value of the actual finished work the more inevitably will the technique itself tend to be æsthetically enjoyed. In playing or in painting the most important and interesting parts of the work, it is unlikely that the artist could produce the right effect without some æsthetic excitement, some enjoyment of the movements as expressive of grace and beauty. It is quite clear, of course, as has been said, that the technical 'object' is different from the completed object, and the æsthetic pleasure gained is rather analogous to the pleasure gained from the movements in dancing. I do not suggest that the focus of the artist's attention is upon these things; they must indeed be extra focal, because it is not (as in dancing) they which are the final object, but a product which is different from them. But they probably do, I think, enter into the content immediately before the artist's mind. Would his work possess vitality if the active direct production of it were lifeless and cold and æsthetically neutral?

(2) (b) As regards that part of technique *remotely* connected with

¹ For the artist may stop to contemplate his work as far as it has gone

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the finished product, we can only say that it may sometimes yield æsthetic pleasure, and sometimes it may not. There is no tendency to inevitability here. If there is æsthetic experience in this case it is possible that the values realized will be fused into (2) (a) and even into (1), so that to the experienced artist the enjoyment of his own picture, and even of another's, may contain the fused values not only of actual painting activity, but of the general daily work and smells of the studio.

It may be said that all this is irrelevant to the finished work of art, and that what we contemplate in the painting or the sonata is just the colours on the canvas and the music and not any of the values we have included under heading (2). But this is a matter of convenience and definition. It is true that we do normally think of the painting or the sonata as the unit, and not of the painter or the pianist in their efforts. But we *may* do so, and in the case of the pianist, at least, I think we frequently do. It is possible, that is to say, to get a *different* æsthetic experience from watching *and* listening to Schnabel play, than it is from listening to him with closed eyes. This may cause distraction from the music, upsetting our æsthetic stability, but it need not necessarily do so—though the dangers are admittedly very great. If we do contemplate the two things together, the difference will be that our art object will be rather more complex, i.e. Schnabel sitting at his Beethoven playing Beethoven's last sonata, and not just the sonata. And further, the object will be slightly different according as we are or are not pianists. If we are we shall probably have a deeper intuitive insight, through sympathy, with the æsthetic values of the player's movements. If we have never played, our observation will be a more external one.

I conclude, then, that technique *may*, under certain conditions, yield æsthetic experience in itself, both to artist and spectator of the artist, and that the æsthetic values of technique may in some cases become united to those of the finished product.

The next question was, Whether, and how far, technical insight and skill may help to enrich our experience as spectators of the finished work of art?

That it does enrich our experience is highly probable. What applies to the drawing of the map of Sicily¹ applies to the æsthetic apprehension of works of art. If it is difficult to have an accurate 'intuition' of the contour of a region when we are not able to draw it, so it is difficult for us to appreciate the full value of the expressiveness of a material unless we ourselves have made some æsthetic experiments in the handling of it. In technical experimentation we discover.² We discover what the materials and its æsthetic possibilities really

¹ Croce *Æsthetic*, pp. 8, 9.

² See Alexander *Art and the Material*, p. 12 and *passim*.

are It would be going much too far to say that without it there could be no æsthetic experience But it remains true that technical experimentation tends to increase discrimination and, through it, æsthetic experience

The final question was, How far does technical skill and insight affect the quality of the artist's work? In the first place it is quite clear that if he has poor technique his powers of communication and his chances of practical success as an artist will be impaired But (what is more important) it is also probable (I suggest with some hesitation) that his power of imagining a finished product will be somewhat reduced If his hands are inflexible it is unlikely that he will be able to visualize so perfectly, on the basis of his *own* direct technical experience how a rapid passage ought to be played He may learn from listening to other players, but that is a different matter If his workmanship as a painter is poor, he will tend to fail (again, so far as his *own* immediate experience is concerned) to visualize precisely how his picture should be painted

But the question, How far do technical powers condition the artist's æsthetic vision? is difficult I cannot discuss it here, but can only ventilate it We certainly could not go so far as to say that poverty of artistic imagination runs parallel with poverty of technique The case of Blake or of any of the great Italian primitives, would seem to contradict this It is difficult, however, to say in a sentence what vision, and depth and greatness of vision, really mean But they do mean something and whatever they do mean, limitation of technique does not in itself appear to imply a definitely corresponding limitation of greatness or depth or intensity of vision The depth and intensity and sincerity of Blake or (in a very different way) of Giotto are plain enough And it is impossible to say that Blake or Giotto given a more perfect technique, would *therefore* have been better artists They *might* have been, but also they might have ceased to possess the special charms of Blake and Giotto Very often, as we know with the greater technical competence of a later age, æsthetic vision diminishes On the other hand, it would seem as though other things being equal, lack of technique is an æsthetic defect and must limit vision Would not Rembrandt, bereft of his amazing technique, be a lesser man not only as technician, but as artist of vision?

CAUSAL DETERMINATION: ITS NATURE AND TYPES

J E TURNER M A PH D

THE problem of the nature and scope of Causation has again been raised into prominence by recent research on atomic structures and processes, the result being that many physicists maintain that the causal principle must now be restricted to macroscopic changes regarded as the averaged outcome of microscopic events each of which alone may not be causally determined, or at least not completely so. Of this markedly new departure Professor Eddington is perhaps the best known advocate. 'Physics,' he asserts 'is no longer pledged to a scheme of deterministic law: the search for a scheme of strictly causal law (is) not practical politics. But the issue concerns not Physics only, for Dr Eddington at once proceeds to interpret his viewpoint by contending that 'science withdraws its opposition to free will'¹, and thus the realms of consciousness and conduct are once more brought into intimate connection with the realm of physical phenomena. It must of course be recognized that the question still remains highly debatable, for, as Sir Oliver Lodge has recently urged, "break down causality, and we are left with chance. That is wholly unsatisfactory. Chance is no solution", and he likewise expands his survey beyond Physics by adding, "not in that way would I aim at freedom"². It is scarcely necessary to refer to current controversy in the biological sphere, between those who regard living processes as falling, if only to some degree, outside the domain of causal action, and those who insist that such action is universal, the indubitable proof of their position being prevented only by the difficulties of investigation.

Before venturing to submit a few considerations which appear to myself to apply to the entire field of debate, I may still further emphasize the extremely doubtful character of the purely physical phenomena themselves, whose significance seems to have been unduly exaggerated. In the first place, it has been suggested that "the electron does not jump" in anything more than a metaphorical sense, but that what really occurs is some change in the electron field or "volume" which masquerades as a "jump"³. With respect

¹ *The Nature of the Physical World*, pp 294-295

² Thus *Journal* vol iv, p 544

³ *Nature* vol 123 p 240 cf Jeans, *The Universe Around Us* pp 297-298

to the statistical standpoint, again, experiments connected with the Compton effect show that "the whole statistical view of radiation and quantum changes is seriously compromised" ¹ In simpler terms, perhaps what is now regarded as the particulate electron is actually a spatio temporal field, while within this field as a whole only a few localized events have so far been inferred or observed in isolation from all the others and have consequently been misinterpreted as inexplicable "jumps" Until the actual conditions have been indubitably ascertained, therefore, any suggestion that Causation has ceased to operate can plainly be nothing more than highly speculative and dubious This equally affects the appeal to the statistical argument, which may after all be only a device forced upon Science by ignorance, as Professor Bridgman has recently argued 'A statistical method is used either to conceal a vast amount of actual ignorance, or else to smooth out the details of a vast amount of actual physical complication' ² Thus the strictly scientific issue must remain open for some considerable time

But the issue is obviously much more than strictly scientific, since it is impossible to exclude the problems of human will, conduct, and character, to say nothing of Life, while with respect to this last it is difficult not to endorse Sir Oliver Lodge's conclusion that the position 'is wholly unsatisfactory' For even if we admit that some or indeed all, vital changes are produced non-causally, the alternatives hitherto advanced are of the vaguest order the operation of influences whose real nature is admittedly quite unknown, or of yet more mysterious "entelechies" whose patent indefiniteness invites too facile and evasive speculation Nor is the undeniable truth that vital processes serve the demands of the organism as a whole by any means discordant with the causal principle itself, since there is nothing essentially illogical in the view that such processes are, at once, individually causal and unified in their entirety Between such organic correlation and Causation there exists no necessary and anterior contradiction On the contrary, instead of being mutually exclusive as they are too often supposed to be, they are present and operative simultaneously, and this means in the end that the essential distinction lies, not between *Causation and its absence*, whether partial or total, but rather between the profoundly different modes in which universal Causation manifests itself under widely varying conditions In other words, the contrast must be drawn not between Determination and Indetermination, nor between Determinism and Indeterminism, but only between the many different types of Determination as such

¹ Andrade *The Structure of the Atom* p 700, third edition

² *The Logic of Modern Physics* pp 205 206

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Determination (to repeat) is universal and inescapable, but at the same time protean, it manifests itself always and everywhere, but in profoundly contrasted forms. Finally, all its diverse forms are continuous with one another although those at one extreme are so different from their allies at the other extreme that we inevitably fail to recognize the reigning continuity arising from the underlying identity.

Man's belief in Causation develops at a very early stage of his experience, both individually and racially, although it is usually asserted that causal theories are attained at only relatively advanced levels of thought. If we mean here "theories" in the specific sense, this is undeniably true. Nevertheless, every outstanding theory has a long history behind it, and the origin of all Theory lies in the child's instinctive anticipation of order in events, though too frequently this is not their *real* order, an anticipation aroused by the order initially observed in his simple world and strengthened as his experience steadily expands. Quite similarly, the magic and superstition of the savage are the race's primitive expression of causal connection, while for both child and savage alike the discovery of actual, instead of false and imaginary causes, finally assumes scientific form, until the physical world becomes explicitly recognized as the domain of universal and unrelaxing Causation, with its attributes of invariability, inevitability, and (in the end) predictability—all three being inseparable aspects of one single complex of natural phenomena, except (of course) as recent investigation seems to impugn this position. Apart from this possibility the sole alternative to Determination is the miraculous or the supernatural, and closely allied with this is the apparent non-causality of Life, Consciousness, and man's own behaviour, at least to some degree. For since they are patently variable without assignable conditions, and therefore also unpredictable, they seem equally obviously to fall outside the rigid domain of Determination, and hence all the familiar and repeated appeals to entelechies, life-forces or the supernatural.

I wish to suggest, however, that these contrasts, though patent, are merely superficial. From the scientific standpoint, they are on precisely the same level as the child's attribution of Christmas superfluity to Santa Claus, or the savage belief that a lunar eclipse is due to a dragon devouring the moon. Such attitudes cease to be merely amusing as soon as we perceive that they really present exactly the same features as the phenomena of the electron "jump" theory—that is either unfamiliarity, or unusual complexity, or both combined, but resulting always in some infraction of the hitherto invariable order. In this respect it is of the highest significance that the adult scepticism about Father Christmas, and the civilized

interpretation of eclipses, are plain anticipations of the slow but unceasing discovery of additional fixed connections in Bio-chemistry, Physiology Psychology, Economics, and even Ethics, although, as I have already insisted, the question of their *absolutely* causal nature still remains open. Nevertheless the marked tendencies of recent research which, despite the inevitably increasing difficulties, show no signs as yet of exhausting themselves must be assigned their undeniably high value. Again to quote Professor Bridgman: "We cannot admit that a statistical method can ever mark more than a temporary stage, because the assumption of events taking place according to pure chance constitutes the complete negation of our fundamental assumption of connectivity." ¹ Still further, the citation of statistical methods as employed in insurance is actually irrelevant, because the details of each separate instance can, if necessary be exactly ascertained, and are then found (or assumed) to be causally determined, in fact, if this were not so, the statistical results would immediately lose much of their value. If, finally, the laws of Probability are appealed to it must be realized that these laws *are* laws—in other terms, are not themselves probable but mathematically certain.

Regarded as universally operative, therefore, Causation is manifested under four main types that are best distinguished as—

- A Predominantly External Causation, in Physical phenomena
- B Partially External, combined with Partially Internal, in Vital phenomena
- C Increasingly Internal combined with proportionately decreasing External in the lower levels of Mental phenomena
- D Predominantly, and constantly expanding, Internal Causation in the higher Mental levels which constitute Personality

But though thus distinguishable, these types must never be conceived as separate, on the contrary, they are (to repeat) essentially continuous, finally, it is obvious that the advance from A to D is accompanied by a marked advance in complexity of structure or organization.

Before considering these types in fuller detail, however, we may note that objections to the principle of universal determination are of two kinds. The first is purely intellectual, it is argued that although causal relations may characterize all physico-chemical changes, still they are quite inadequate to explain vital and psychical changes because these all present unique organic, purposive, or teleological aspects which are elsewhere absent. Or alternatively, in the organic and psychical spheres we are concerned with 'wholes,' rightly so called because they possess a measure of independence or

¹ *The Logic of Modern Physics*, p. 206

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autonomy which (once more) are absent from the inorganic; while (this argument continues) since all causal connections are purely serial connections, they are plainly quite inapplicable to "wholes" or organisms as such. Hence the conclusion that the actually operative agencies must be non-causal.

The second kind of objection, though certainly intellectual in form, may be described as emotional and moral, since it expresses an instinctive and powerful dislike or fear of any disproof of human initiative, freedom, and responsibility; it is this emotional reaction that accounts for the welcome accorded in many prominent quarters to the suggestion that even the electron may be "free" to "jump" indeterminately and unpredictably. But though these two types differ widely in their basis and mode of expression, I believe that the consideration of the intellectual type will suffice equally for the emotional and moral type. I shall therefore begin with the former, leaving the latter to the logical development of the argument.

A. To begin with, then, it is obviously becoming increasingly difficult to discern any final, fixed, and absolutely definite distinction between the physico-chemical category on the one hand, and the psychico-vital on the other; and this in two respects. Firstly, the discovery of bio-chemical, or physiological, explanations of vital and even psychical and moral reactions proceeds arduously but steadily with no perceptible indications of exhaustion.¹ To emphasize the paucity of established results is, to my mind, to misread the situation; for when we realize that some proteins have molecular weights of from two to five millions, the marvel surely is not that so little, but rather that so much, theoretical and practical progress has been made. The patent result is that the supposedly non-causal entelechies and life forces are steadily becoming more indefinite and tenuous, more incomprehensible and mysterious, than ever, so that as grounds of explanation they raise more numerous and obscure problems than they purport to remove.

But even if, for argument's sake, we concede the operation of non-causal agencies, still it is always impossible to exclude the fundamentally physico-chemical or mechanical, and with this the causal, aspect of vital and mental phenomena. For as Sir James Jeans has recently pointed out, every atom under certain normal conditions "becomes a true perpetual motion machine"²—that is, a pure mechanism; this remains true if again we concede that it is

¹ "The delinquent errs not so much through any great intellectual defect as through a defect of emotional balance which at bottom is based on a constitutional defect of the endocrine system" (*Nature*, vol. 124, p. 545). The further significance of Pavlov's researches on Conditioned Reflexes is obvious.

² *The Universe Around Us*, p. 132.

also something more than a mechanism, whatever such an indefinite "something more" may be. In any case, since the atom is a mechanism the molecule is a still more complex mechanism, so complex in fact that no satisfactory model of the relatively simple H_2 hydrogen molecule has yet been suggested. Quite similarly, therefore, the heavy protein molecule is a super mechanism of indescribable intricacy equally in structure and function. Nor can we abandon this conclusion when these proteins constitute the delicate tissues of man's cerebral hemispheres, inseparably associated as these are with his intelligence and will and therefore with his conduct and moral character. Not even here then can we absolutely exclude aspects that are literally mechanical, and with this, causal. This has indeed become so incontrovertible that entelechies and their analogues are usually restricted to the 'guidance' of the mechanical processes themselves, though how such guidance is actually exerted remains as obscure as the action of the Cartesian "soul" located in the pineal gland.

It follows, therefore, that no degree of organic complexity whatever although associated with thought and volition, is devoid of mechanical and causational aspects of paramount importance. But when we proceed to regard this structural and functional complexity from a fresh viewpoint, it at once necessitates a thoroughgoing revision and expansion of the concept of Causation. For Causation is usually interpreted as essentially serial—as a series of events $a \rightarrow b \rightarrow c$ wherein a itself somehow "produced" or preceded, "produces" or invariably precedes or necessitates $b \rightarrow c$, their relation remains fundamentally serial, whether merely as an invariable temporal sequence or otherwise. Now while this is incontrovertible it is nevertheless seriously inadequate, but its inadequacy inevitably remains concealed so long as attention is confined to physico-chemical phenomena alone, in this term's usual sense of excluding Life and Mind—a sense which I have just shown, however, to be much too restricted. For in this domain both causes and effects are often 'large scale' phenomena, either spatially as with massive planetary, solar, and stellar changes or temporally as with interminable wave and ray processes of all types of radiation, or again spatio-temporally as with the age long periods of inorganic evolution. In all such instances alike the relative vastness of scale prevents our apprehending all the events in their actual correlations and entirety. Now this limitation plainly means confining our investigation to the phenomena as *series* only e.g. the *successive* orbital positions of the planets, the *successive* phases of stellar evolution, the *successive* aspects of familiar chemical reactions. Such instances are innumerable, and it is they that explain the prevalent Humean interpretation of Causation as nothing more than invariable

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temporal sequence It is true that even in Astronomy and its allied sciences this standpoint is being steadily modified by the widening range of modern discovery, but it is only when we turn to the complexity of bio chemical, physiological, and vital processes that the inadequacy of the popular serial theory of Causation can be clearly perceived

B The degree of complexity involved is of course always relative, the truth being that even electrons are incalculably intricate "Present experimental evidence," asserts Professor Bridgman, "makes very probable structures beyond the electron and the quantum, there is no evidence that nature reduces to simplicity as we burrow down into the small scale" ¹ But when on the other hand, we adopt the ordinary view that inorganic compounds are—relatively—simple, we are then justified in describing the heavy protein molecules already mentioned as much more complex Now nobody would maintain, I suppose, that the incessant and extremely delicate reactions which these molecules exhibit are directed by any entelechy, even if it is urged that an entelechy controls their changes within the living cell itself For if so, then the question at once arises anew as to where entelechies abandon their unique and distinctive function, so as to allow chemical interchanges to proceed of themselves It follows therefore that for such heavy molecules *all* the phenomena, both external and internal—that is both as affecting them from without and as occurring within—are undeniably causal, the latter being to a large extent the consequences of the former But now the extremely small dimensions of such molecules come into play and gain outstanding importance, because they plainly enable the whole intricate group of phenomena to be kept under investigation almost simultaneously In other words, these molecular fields of change differ profoundly from solar and stellar fields in that they can readily be studied as single systems—as wholes, and this means that the spatio-temporal vastness previously referred to as characterizing many inorganic phenomena has disappeared, "large scale" phenomena have given place to "small scale" This (to repeat) permits the entire system to be investigated essentially as a system, while what is thus true of proteins is similarly true of every living cell and living organism Quite apart from all problems of Causation, each cell, each organism, is a more or less independent system capable of being studied as an autonomous whole The facts here are familiar, but their fundamental implications are too generally ignored

What then are these implications? Reverting to the protein molecule, what we there find is an intricate internal group of causal changes, in more general terms, the operative Causation is *internal*

¹ *The Logic of Modern Physics*, p 207

to the system, as a system, it operates *within* the system, instead of *upon* the system from without. Further, every advance in complexity of structure and function¹ necessarily involves an increase of such internal causality, since "complexity of function" clearly means, not merely a larger number of static factors arranged in more intricate ways, as in an enormous cathedral or skyscraper, but rather the incessantly mutual and dynamic influence of each element—each atom and electron—upon its fellows. Once again, that is, internal causality. It is precisely this consideration that invalidates the familiar objection that "mere" advances in complexity have little significance, the issue depends on whether the increasing complexity is only static as in a building, or essentially dynamic as in protein molecules. These remain, of course, causally influenced by their environment, this is the "external causality" already indicated, and to this the "internal causality" is reactive always in such a manner as to maintain the molecule's stability and persistence and thus far all absolutely causally, with no "guidance" from entelechies. But before proceeding to develop any further implications of these principles, I shall discuss two points which, though of subordinate importance, are still highly instructive. The first point is the contrast between any ancient and simple windmill or similar elementary device and the machinery of a modern liner or airship. Here the increased intricacy, of structure and function alike, is perfectly obvious, it is indeed too obvious, because its familiarity has blinded us to the actual extent of the marvellous advance in *automatic* mechanism. Apart from this, however, the essential point is that all such mechanisms are purely and absolutely causal systems, and it is equally significant that as compared with the super liners and super airships of the distant future, those of to day will rank with Stevenson's Rocket as interesting antiquities. It may be urged that the most complex mechanism conceivable is after all the product of the inventive human mind, which thus acts as the ever requisite entelechy. But I have dealt elsewhere with the fundamentally important implications of this connection between mechanism and mind², and whether mind is an entelechy or not—I should myself say not, in any mystical sense—must not be allowed to conceal the patent truth that no increase whatever in the intricacy, delicacy, and automatism of man's mechanisms can involve the slightest infraction of their purely causal character. On the contrary, every improvement depends absolutely on the mind's adherence to causal principles, to abandon these is to invite inefficiency and failure.

But here again the advance to higher dynamical complexity is at

¹ It must be remembered that structure and function are inseparable.

² In my *Personality and Reality*.

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the same moment an advance to greater internal causality, and with this to that independence of external control which is the essence of all mechanical automatism. The ancient windmill was activated from *outside* itself; when the wind stopped it stopped also; in other words, in having no automatism it had no independence; the best modern machines are on the contrary automatic, which means that they are largely independent of their environment except as a source of energy supply. Thus the purely causal reactions of every good and intricate machine operate *within* the machine itself and endow it with the independence characteristic of automatism; and since we have already found this to occur in the case of protein molecules, it follows that all human mechanisms are approximations to Nature's incalculably more intricate mechanisms, whose activities are likewise purely causal.

My second subordinate point is that the slowly increasing range of modern Astronomy and Physics, dealing not only with separate planets and atoms, but with enormous star clusters and galaxies, enables us now to envisage these, despite their spatio-temporal vastness, as single and intricate systems, analogous in everything but their magnitudes to heavy protein molecules; so that apart from the patent contrasts in scale the basal principles involved are identical. In other words, when we consider the movements of any single planet alone the purely causal influences are predominantly external, acting on the planet from outside itself; now this is similarly true of every atom within the protein molecule. But as soon as we turn from the planet to the entire solar system as a system, exactly as when we turn from the atom to the entire molecule, then in both instances alike the universal causality ceases to be predominantly external, and becomes predominantly internal. Both the entire system or "whole," and the constituent elements, remain purely causal; but the causality operates no longer mainly outside the "whole," but more or less completely within it. In the solar system, in fact, the external causality has sunk to that almost negligible minimum due to the other members of the galaxy and to "island universes" whence cosmic rays seem to arise, combined with the influence of its initial nebular origin.

Now all this is extremely significant, for it really means that the solar system is predominantly an independent system—that is almost purely automatic in all its detailed internal changes, and almost purely autonomous in its motion as a whole. Its internal changes, still further, maintain the entire system's stable persistence during reons of time; but this actually means that they subserve the needs of the system as a whole. And to say this is clearly to equate the solar system, and every star cluster and galaxy, *purely causal* systems though they are, to the living cell

and organism, which likewise enjoy autonomy only in much narrower degree temporally, and whose factors likewise subserve the demands of the whole. The differences here, in short, are differences in detail only, not in ruling principles. To a superhuman intelligence, then, the stars and island universes must appear like animals roaming over vast plains each being autonomous except as all alike are controlled by common instincts, or like a vast fleet whose every member enjoyed similar autonomy consistent with the admiral's scheme of operations. Finally, we must recall the earlier description of every atom whether in the star or the cell, as a perfect mechanism, so that (to repeat) "between Causation and organic correlation there exists no necessary and anterior contradiction." Alike in galaxy, star cluster, solar system, hmer, airship, and above all protein molecules, we find autonomy, independence, and subservience of the parts to the persistent stability of the whole all inseparably allied with internal causality. But this is still pure causality, effectively operating, and also clearly intelligible, quite apart from non causal entelechies or life forces, which thus become altogether superfluous, unless, of course, we choose to use "entelechy" to denote the complete system of internal but pure causality. Such usage would, however, be plainly cumbersome and apt to be seriously misleading. We seem therefore irresistibly compelled to adopt precisely the same standpoint as regards that supremely complex group of proteins, the living cell. Here also pure causality, as predominantly internal though never completely so, constitutes the necessary final and sufficient principle of theoretical explanation while the entelechy theory, like the use of statistics, merely conceals our present ignorance of detailed connections.

C Nor is the situation altered in principle when we trace the further advance from bodily life to consciousness. All that is requisite is to recognize the implications of that still higher degree of dynamic complexity due to the activity of the mental factors. As regards the simpler types of conscious beings, it is clear that their impulses, appetites, and above all their instincts, all operate in a markedly fixed and mechanical way, exactly as many habits do in human experience. For again it must be remembered that the essence of mechanism is never the material—the metal and rubber—of the machine, but rather the invariably ordered manner of its working while this invariable order is plainly exhibited also by what are universally called "mechanical actions" in ourselves. It is undeniable that the activities of an animal cannot be predicted as accurately as those of a magnet, but neither can the variations of the weather, is then the latter ruled by some entelechy? If not, then the difficulties in both cases arise solely from the vastly increased intricacy of the co-operating elements, which defies

adequate analysis, whether these elements are meteorological, vital, or mental, while, in slowly becoming more and more detailed, analysis unfailingly reveals fresh causal connections. With respect to birds *e.g.*, 'each phase of activity must be correlated with internal changes in the sexual state, without a knowledge of which the behaviour of the individual cannot be adequately explained. For birds the necessary data do not at present exist, for the subject has scarcely begun to be investigated.' Thus as soon as the body-mind phenomena are viewed as forming a single system the causal relations are seen to be more intricate and at the same time more internal, than in unconscious plant organisms or magnets but it has already been found that increased internal causality is identical with greater autonomy or independence—attributes which plainly expand with the widening scope of higher animal mentality. From pebble to magnet, therefore, and so onwards to plant and anthropoid, the advance is absolutely continuous and homogeneous, so that there is no more need for any entelechy to explain the contrast between ape and magnet than that between magnet and stone. On the contrary, from the lowest to the highest phases there can be traced three inseparably united aspects—increasing dynamic complexity, increasing internal causality, and increasing autonomy.² With these external causality operates reciprocally, but in ever-decreasing proportion, or, in other words, the anthropoid is far less passive and less dependent on environmental influences, or in positive terms far more autonomous and dominant, than the pebble eternally dashed to and fro by the waves. Equally identical in principle is the maintenance of each system's well being, whether solar system or plant or ape through the reciprocal interaction of the constituent elements, and similarly the temperature of stars and modern buildings, like that of the living body, is regulated automatically, so that if no entelechy is requisite in the former, neither is it in the latter.

In anthropoid mentality, however, there appears unmistakable intelligence which, though rudimentary, is akin to human intelligence with its own highest levels in reason and knowledge.³ Once again there occurs no breach in continuity, no infraction of the governing principles, but only yet greater intricacy due to the co operation of

¹ *Nature* vol 124 p 655 *cf* note, p 549 *ante*

² This can clearly be seen in the contrast between a spinning and a quiescent gyroscope. Its motion is an added complexity which by enabling it to defy external causal agencies endows it with that capacity for self-direction which is now utilized in steering gear. Conversely to demagnetize a compass needle is both to simplify its constitution and to reduce its status to that of the pebble. This general principle gains ever widening scope as we advance to the still higher levels of Life and Mind.

³ *Cf* *The Mentality of Apes* (Koehler) and *The Great Apes* (Yerkes)

steadily multiplying factors, of which far the most important are ideas or concepts. For it is obviously its command of ideas that distinguishes the civilized and rational mind from the pre rational mind of savage, child and anthropoid alike, swayed as these all are by emotional impulses and instinctive urges¹, while ideas, again, are obviously capable of much greater diversity and expansion than non rational factors, so that knowledge enjoys an inexhaustible potentiality, as Professor Julian Huxley has recently insisted². It follows therefore, that the progressive co ordination of ideas, each contributing its due influence to the final result, constitutes an expansion of internal causality that is literally immeasurable and, indeed in principle infinite. It must also be observed that it is upon this indubitable psychical causality that all schemes of education and moral reform are based—certain selected ideals being inculcated as causes in the hope or conviction that their ultimate effects will be beneficial.

D. Thus every advance in intelligence increases the range and influence of internal causality as compared with that of external, the rational mind including and employing ideas, is less at the mercy of its environment, even while it must always react to the environment, than is the ape, to say nothing of plant and pebble. Once developed intelligence begins to operate there arises an unceasing and steadily intensifying tendency towards ever completer internal causation, while to become less passive clearly means to become more autonomous and dominant over the environment. To become fully effective however, the entire mass of ideas must undergo rigorous selection, and here the analogy to Natural Selection as a causal agency³ is patent. Influenced by memories of past experience—and this means *causally* influenced—man rejects many ideas in favour of those few which he then elevates into his ideals. Every ideal, therefore, trivial or valuable, acquired from others or selected by ourselves, intellectual, artistic, or moral, begins as an idea conflicting with its rivals until it proves its own superiority. The entire process is as thoroughly causal as are the interacting gravitational attractions which determine a planet's orbit, despite the profound contrast in type and detail, the governing principle remains identical throughout. Thus ideas are selected according to their promise of pleasure or pain, benefit or harm, and finally of good or evil, and to the degree that such selection is complete,

¹ I do not mean of course that civilized man is completely rational. Once again it is a matter of comparison and relativity, and we must hope that another million years will bring some slight improvement. Nor do I suggest that ideas purely as such impel to action: it is sufficient for my argument that ideas influence future action but always causally.

² *Essays of a Biologist* p. 55

effective, and rational, the resultant action is caused or determined mainly from *within* man's experience, instead of mainly from without by his environment. Ideals, constituted our own through our selection of them from among many rival ideas, become our guides of action, more or less stable to the degree that they are not overthrown by the ever-turbulent mass of non-rational impulses and appetites. Now all such conduct, and indeed the systematic tendency thereto, are never merely rational but also volitional, they constitute the exercise not only of reason but equally of will, primitive causation is slowly transformed into volition proper. For all volitional or deliberate actions are those which emerge from, and express, our dominating ideals as these arise from ideas in the manner I have just outlined^{*} and thus we attain conclusions of the highest significance. Our mental processes of rational deliberation, culminating as they eventually must in voluntary actions, all occur within the realm of Causation or Determination. But this has now developed into essentially internal Causation, not external, although volition is clearly responsive to external Determination. All entelechies have therefore become superfluous, unless the rational and volitional self is termed an entelechy, but of a purely causal type.

But all this really means that voluntary acts arise from within and express ourselves or our personalities. They can never be compulsorily thrust upon us from without, even though they constantly react to the outer environment alike in its material, vital, and social aspects. Finally, both environmental and volitional processes all remain purely *causal* processes, the former external and the latter internal, the former tending to become more and more subordinate, the latter ever more dominant as knowledge and power develop concomitantly. But greater internal Determination, once again, is identical with greater autonomy, while every really autonomous individual or community is a *free* individual or community. Thus external Determination is compulsion, whether gravitational, instinctive, or political. Internal Determination, on the contrary, is true freedom, whether individual or social. As complexity of dynamic structure and function advances and is combined with unified coordination, so external Causation is transformed into internal, and brings with it autonomy or real freedom. The predominance of the internal type is plainly always a matter of relative proportion, and the development of definite intelligence is the indispensable condition for any high degree of

* Ideals are often effective without being good, as with successful fraudulent financiers or unscrupulous politicians. To pursue this aspect of the situation would be to show that in the end the most completely rational is identical with the highest good—the fundamental Hegelian principle that 'the Rational is the Real'.

that specific form of internal Determination which constitutes volition. But once they have emerged, both reason and will enjoy illimitable potentialities under proper environmental influences, which themselves become increasingly subordinated, as with man's steadily expanding power over natural energies. Thus consciousness attains its highest possible levels in unified will, emotion, and rationality, all co-operating causally, but at the same moment autonomously. Such unity constitutes Personality, always formally or potentially free because self-determined, and always capable of rendering its freedom increasingly actual to the degree that its internal Causation predominates over external, so that, alike in theory and in practice, no fuller freedom is either possible or desirable than Self-Determination—that is absolute Determination operating from within the individual or community. Just as we have seen that 'between Causation and organic correlation there exists no necessary and anterior contradiction' so likewise there is no contradiction between the highest types of internal Causation and real and substantial freedom.

POSTSCRIPT

This article was written before the publication of Professor Whitehead's *Process and Reality* and as this volume appears to me to supply weighty evidence in support of my general argument I append the following brief quotations—

1 *The Retention of the Principle of Causation*—One task of a sound metaphysics is to exhibit final and efficient causes in their proper relation to each other (p. 116)

2 *Causation and Freedom*—The freedom inherent in the universe is constituted by this element of self-causation (p. 122)

3 *Genesis of the Concept*—The notion of causation arose because man and lives amid experiences in the mode of causal efficacy (p. 247)

GOD AND MAN

PROFESSOR CLEMENT C. J. WEBB

JUST three years ago I contributed to this JOURNAL a few remarks on the problem of the relation of God to the World. I propose in the present article to add some observations on the closely connected (and indeed overlapping) problem of the relation of God to Man—especially in view of the theory, by no means a new one, but at the moment much in evidence (and that in more shapes than one) that when we speak of God what we have really in mind is our own human nature or some part or aspect of it imaginatively objectified as a distinct or independent reality.

Nowhere can this theory be studied to greater advantage than in the brilliant work of Ludwig Feuerbach *Das Wesen des Christenthums* published in 1841 and translated into English in 1854 by Marian Evans better known as George Eliot the celebrated novelist. Most of the later developments of the type of thought which finds expression in this book are anticipated in it in principle and it was with a very just appreciation of its importance that the late Baron von Hügel took it for the text of his admirable essay on *Religion and Illusion* which is included in the first series of his *Essays and Addresses on the Philosophy of Religion* published during his lifetime, in 1911.

From the time of the Greek satirist Xenophanes who in his attack upon the degrading stories about the gods which repelled so many of the highest minds among the Greeks from the popular religion observed that if oxen or horses or lions could make images of their deities they would make them like oxen or horses or lions as the case might be with as much or as little right as we make images of ours like men down to the time of Rupert Brooke's poem entitled *Flab* the anthropomorphism of our theologies has aroused the doubt and suspicion of acute-minded men. The story in the book of Genesis which tells us how God made man in his own image inevitably appears (to all who do not take it for the record of an actual historical fact supernaturally revealed to the writer) as a naive attempt to justify such anthropomorphism, and this is of course the point of the often-quoted epigram that God made man in his own image and man has ever since been returning the compliment.

Among the Greek philosophers who came after Xenophanes we find the greatest of all—Plato—seriously concerned to disentangle

from one another a right and a wrong anthropomorphism. No one could have shown himself more unsparingly severe than Plato towards the legendary or literary mythology which fell under Xenophanes' lash: no one more earnest in denying to the divinity not merely the outward shape of man—he does not trouble himself about that—for no educated thinker of his day would I suppose have attributed this to God—but any share in human weakness or passion. Yet he was at least as much in earnest in tracing in the world order the vestiges of a Mind and Reason, the archetype and source of the mind and reason which are in man. For the same reason which discovers the *unreasonableness* and therefore the vanity of fables which ascribe to the gods body parts or passions, in that very act affirms its own transcendence of the animal organism with which it is associated and the immanence in itself of an absolute criterion of truth and falsehood: that is to say it affirms if not its own godhead, at least its own godlikeness.

In the subsequent history of European religion we find in Christianity a doctrine of God which retains the horror of idolatry characteristic of the Judaism in the bosom whereof Christianity arose and is (as any one knows who is familiar with the classical literature of Christian theology) as far removed as can well be, in its insistence (inspired by Greek philosophy) on the simplicity, eternity and self-sufficiency of the divine nature, from anything which can properly be called anthropomorphism—anthropomorphism indeed it reckons as a heresy—but we find this doctrine united with a doctrine of the incarnation of God which notwithstanding declares this divinity to have been supremely manifested in an historical individual human life and personality. The concluding stanzas of Dante's *Paradiso* describing the vision of the Godhead which crowned his pilgrimage through hell, purgatory and heaven, express in unforgettable words this paradox at the heart of his religion. He sees the likeness of a man as it were painted on the midmost of the three circling rays like rainbows mutually reflecting each other, which symbolize the triune Deity.

Qual è l'geometra che tutto s'affige
 Per m' surar lo cerchio e non ritrova,
 Pensando quel principio ond' egli ind' ge
 Tale era io a quella vista nuova.
 Veder voleva come s' convenne
 L' mago al cerchio e come vi s' indova,
 Ma non eran da ciò le proprie penne
 Se non che la mia mente fu percossa
 Da un fulgore in che sua voglia venne.
 A l'alta fantasia qui mancò possa;
 Ma già volgeva il mondo suo e l' velle
 Sì come rota ch' egualmente è mossa,
 L' amor che move il sole e l' altre stelle.

Unquestionably in religion—and not in the Christian religion only, though there most obviously—the image of the human spirit is discoverable in the object which man worships, is it not perhaps, so we are invited to ask ourselves, in truth no more in the end than the reflection of ourselves? Is the mysterious glory, as of an absolute, transcendent perfection, by which it seems to be encompassed, indeed an independent reality, or not only an appearance incident to the process of reflexion? Such is the question involved in the suggestion made by the theory or theories to which I propose in this article to call attention

The starting-point of Feuerbach was the philosophy of Hegel, and it is easy to see that this philosophy, taken in a certain way, might lead to the view that "Religion is the childlike condition of humanity," in which man sees his own nature as something outside of himself "Hence," as Feuerbach declares, "the historical progress of Religion consists in this that what by an earlier religion was regarded as objective, is now recognized as subjective, that is, what was formerly contemplated and worshipped as God, is now perceived to be something *human*. What was at first religion becomes at a later period idolatry." "Man has given objectivity to himself, but has not recognized this object as his own nature, a later religion takes this forward step, every advance in religion is therefore a further self knowledge. But every particular religion excepts itself—and necessarily so, otherwise it would no longer be religion—from the fate, the common nature of all religions. It is our task to show that the antithesis of divine and human is altogether illusory, that it is nothing else than the antithesis between human nature in general and the human individual."

The difference between the view here outlined and the Hegelian view, of which it was a development, lies, as I take it, in this, that for Hegel himself the truth is not so much that the divine is "human nature in general" as that the human spirit, rightly understood, is divine, and that whereas, for Feuerbach, the "human individual" is what is truly real, and that which we know first as the "divine" nature is just what is common to all individuals of the human species, for Hegel "the truth is," as he on one occasion says,¹ "that there is only one Reason, one Spirit, that Spirit as finite has no true existence." But for Hegel, as for Feuerbach, God's *otherness* (upon the religious importance of which Rudolf Otto has lately insisted so much) is illusory, and it is the function of religion, and that most conspicuously in its Christian form, to transcend this illusion and to recognize practically, as philosophy will go on to

¹ *Werke*, xii p 287, *Philosophy of Religion*, English translation by Spiers and Sanderson, iii p 77

recognize theoretically, the reality which it has concealed from us, namely, the unity of man with God as one Spirit

I propose however, on this occasion to begin my discussion of the theory that our knowledge of God is nothing else than knowledge of ourselves by considering it in the form which it assumes in the mind of those who, taking upon the whole what we may call a *naturalistic* view of reality, regard religion as an illusion which in the maturity of human intelligence must necessarily be discarded. I will reserve until I have dealt with this, any examination of the form in which it is presented by *idealistic* philosophers who, holding Spirit to be the one genuine reality, are prepared to allow to the religious consciousness a higher degree of validity than belongs to the ordinary consciousness or to that with which the natural sciences are concerned, but who would regard the antithesis of God and man implied in the practice of religious worship as destined to be transcended in philosophy, since, when we know that, in Hegel's words, "there is only one Spirit," and that "Spirit as finite has no true existence," we can no longer regard the relation of worship (or perhaps any relation) as belonging to the ultimate constitution of reality

An interesting example of the naturalistic variety of the theory which sees in the divine nature the human in disguise is that afforded by the French sociological school whose leader was the late Emile Durkheim and their organ the journal called *L'Année Sociologique*. The tendency of this school—though Durkheim himself eventually reached a position which did, in my judgment, more justice to the facts than that adopted by most of his colleagues—was to assume that, because religion rests upon what they call "collective representations"—in other words is in its origin a function of *social* life—it cannot claim objective validity. This assumption seems to me to be unjustified. The attempt to identify "pure reason" with that kind of thought for which nothing but the abstract individual is real, to deny objective value to what these writers call "collective representations," just because they are "collective" and not merely individual is I am convinced, fundamentally mistaken. Indeed, the very natural sciences which such thinkers, like other Positivists (for the school of which I am speaking has inherited the Comtian tradition), are apt to take it for granted constitute the sole channel by which reality is revealed to us as nearly in its true nature as our intelligence is capable of apprehending it, must be, on their premises, involved in the same fate with religion, since they too rest upon "collective representations." The whole position of Naturalism is undermined for us when we come to perceive that natural science cannot be the one sufficient basis of philosophy, because it cannot account for its own existence, but necessarily

assumes the existence of *truth* and the possibility of distinguishing truth from error, thus by implication ascribing to the mind a character which as a merely natural phenomenon, capable of being exhaustively studied by the method used in the natural sciences, it could not possibly possess

In regard to the special contention of the French sociologists that in the object of religion we have only an imaginative representation of the unity which binds together human individuals in society, we need not indeed doubt that the object of religion is first envisaged as that with which the individual has to do in his experience of a communal life shared by him with the other members of his tribal group. Yet we must note that this comes to be distinguished from everything which can be merely identified with the principle or sentiment of communal life, as soon as "the individual attains the level of development at which he not only sees in that which all his fellows recognize as valid or desirable the really or objectively valid, the really or objectively desirable, but comes to recognize that something may be really and objectively valid or desirable which not only he but his whole group fails to accept or to desire"¹ Nor is it only what is ultimately differentiated as religion which is at first implicated in the social experience. The fact, insisted upon to exaggeration by these same French sociologists, that the attention to the measurement of time and space which is eventually so important in the intellectual life of man is, it would seem, first aroused in connexion with the institutions of tribal life and tribal religion, illustrates the truth that when man begins to concern himself with the universe, it is from the point of view of his society, of his group. "The consciousness of the world is mediated to him through the consciousness of his group. It is in becoming aware of himself as a member of a group, as living in it a life which distinguishes from his individual life as larger, more fundamental, more sacred, that he starts out on the way that will eventually lead him on to the adventures of science and of philosophy"²

Another form of the naturalistic version of the theory which finds in the God of religion only man's mistake of "his natural face in a glass" for the face of Another is that which it assumes in the hands of the exponents of what is often called "the new psychology". Just as it would be a mistake to overlook the importance of the light thrown upon the religious experience by the work of those who, with the French sociologists, would see in it merely an imaginative expression of our social experience—since it is true that man's

¹ See the present writer's *Group Theories of Religion and the Individual*, pp. 159-160

² *Ibid.*, pp. 75-76

religious experience is most commonly mediated to him through his social—and yet social experience will not account without remainder for religious experience, so too it would be a mistake to ignore the contribution which a consideration of religious doctrines in the light of any knowledge which we may be able to obtain through psychotherapy of the obscure and subconscious workings of the human mind may make to our comprehension of that experience. Nevertheless it does not follow that our religious doctrines have, as it is sometimes put no ontological value, but only a psychological, or, in simpler words, that they describe no reality other than our own inner states. The very same line of argument which would persuade us of this logically carried out, would leave us no real external world would perhaps even leave to each one of us no real fellow human beings beside himself. For, unquestionably, our perceptions of the external world and our mutual relations with each other have, no less than what we call our religious experience, a psychological history as incidents in the course of our individual life. The assumption which even the "new psychologist" makes throughout of the independent reality of the external world and of other persons beside himself is not in kind different from the conviction which the religious man has that in his religious experience he has to do with Another beside himself. No doubt religious experience is differentiated from our perception of the external world by the inapplicability in the former case of verification by other sources than those which mediated the original perception. But in the case of our relations with our fellows it will be readily apparent on consideration that our recognition of them as persons cannot be explained (though the attempt so to explain it has not unfrequently been made) as merely an "inference" from our perception of their bodily shape and movements by analogy with our own. Such inference may indeed play a part in the recognition, but a direct *rapproch* transcending anything that such an inference by itself could give us is absolutely requisite while, for the maintenance of such knowledge of our fellows as belongs to the closer kinds of intimacy, a continuous voluntary exercise of interest is necessary, to which the active seeking of God in prayer, which is indispensable to the retention of a living conviction of his reality and presence, is entirely parallel.

When we pass from what I have distinguished as the *naturalistic* form of the theory which sees in God only our own nature reflected to what we may call its *idealistic* form, what appears, to me at any rate, a far more difficult problem is raised. Here, too, several varieties of the theory may be recognized, but I can only now deal with these very summarily and superficially. All of them may, I think, be said to have their roots in the thought, a statement of

which by Hegel I quoted above, and, if we neglect such kindred speculations as may have been suggested in the Far East by the thought, so familiar to Indian piety, of God as the *Atman* or true Self, and confine ourselves to modern European philosophy, we may say that they are in the main to be found in the schools which have drawn inspiration from the teaching of Hegel. Of Englishmen, two distinguished thinkers who have passed away within the last few years, Bradley and Bosanquet, and of contemporaries elsewhere, the two leaders of Italian thought, Croce and Gentile, all exhibit in some measure the tendency of which I am speaking. In the case of the two former, however, it is perhaps only in a slight measure, though many a religious person who can neither bring himself to abandon worship, nor yet to render it except to One who is both Another than himself and also the ultimate Reality in whose being his own is rooted, in whom he "lives and moves and has his being," will be apt to think that their account of religion has "taken away his Lord" and left him only an experience of his own. Nor do I pretend to be content myself with the theory of religion to be found in the works of Bradley and Bosanquet (I am neglecting here—as they generally did themselves—differences between the two which appear to me to be in other respects important). But I do not think that it can fairly be said of it that it finds in God only our own humanity. Bradley has expressly affirmed that "there is nothing more real than comes in religion", and if God is not for him (or for Bosanquet) ultimately real, so neither is man, both are "appearances", and of the two it is God that manifests the more fully the nature of that which is real, namely the Absolute. What "comes in religion" would by neither thinker be described as exclusively human. Indeed, the polemic of Bosanquet's last book, *The Meeting of Extremes in Contemporary Philosophy*, is directed against the Italian idealists precisely on the ground that they are too exclusively humanistic, in not allowing, for instance, that the beauty of nature is an independent source of inspiration to man, but making it out to be merely the expression of human emotion.

These Italian idealists, on the other hand, may, I think, be reasonably held to be maintaining a theory which makes the object of religion, when rightly understood, no other than the human spirit. Croce, indeed, denies to religion the rank of an autonomous and permanent activity of that spirit, it is for him an immature form of philosophy, destined, whenever men's intellectual development has reached the stage of full maturity, to be superseded thereby. To Gentile it is more than this. It is a permanent "moment" (in the German sense of the word) or factor in the life of the human spirit, with which we cannot conceive of it as dispensing, yet, if I understand his view rightly (of which I am far from being confident), he

also like Croce regards it as in the main at any rate a kind of knowledge in which what we ultimately come to know as our own spiritual essence appears to us as other than ourselves that being here apprehended as transcendent which philosophy apprehends as immanent I do not however profess to have an acquaintance with Gentile's philosophy sufficient to entitle me to speak with assurance about it and in bringing him forward as an example of a theory which makes God's nature in the last resort man's in disguise I may well be attributing that view to one who might justly disclaim it My interest is however for the moment in the fact that an idealistic as well as a naturalistic version of this theory may be entertained whether it be actually embraced by a particular thinker or not

Now that he who in St Paul's language is joined unto the Lord is one Spirit is a conviction which lies at the very heart of religion in general and of the Christian religion in particular No doubt the spiritual unity of two or more persons who are connected by membership of a community or in more intimate fashion by a common purpose or by mutual love does not abolish but requires and depends upon their difference from one another But the relation of a finite person to God cannot be conceived as the same relation which exists between one finite person and another The metaphysical principle enunciated by Spinoza in the saying *Quicquid est in Deo est* and the religious sense of entire dependence upon God even in our consciousness of him alike forbid us so to conceive it Thus the way is laid open to a doctrine of God's immanence which seems on the one hand to leave us no personal object of religious worship and on the other to make our own life a part of the divine life which in its own way is as truly and necessarily a part of it as any other so that in coming to know anything of God we are coming to know something which is essentially *not other* than our own nature but that which is it or is continuous with it and if continuous with it then not continuous with it after the manner of a material *continuum* each part of which is external to every other but after the manner of a spirit in regard to which the notion of externality has no application at all It is I think easy to see that the appropriation of a view of this kind while in a mystic who *feels* his own life already one with the divine it might tend to destroy the humility which is begotten of a sense of the contrast between the littleness of man and the greatness of God would in an ordinary person be apt rather to lower if I may so express it the temperature of the spiritual life by suggesting that there is no actually existent quality of life superior to that which is manifested in the highest civilization at present attained by man so that one could say in a phrase which Bosanquet has somewhere quoted from Turgeneff I believe in civilization and I

require no further creed " In either case it seems to take out of religion something with which it cannot well dispense Nor is it surprising that after a period during which the current of thought, especially in Germany, had set strongly in the direction of a purely immanentist and secular or 'this worldly' conception of the object of religious experience, we should find, especially in that country, such a reaction towards an even exaggerated insistence on the *otherness* of God as we find in Otto's doctrine of the "numinous" and in the emphasis laid by such writers as Karl Barth on the necessity of regarding religion as the reception of a revelation coming into our life in this world from a sphere quite different from that in which our civilization is at home

All I have to add on this occasion will do little but repeat what I said in my previous article on "God and the World "

(1) The religious experience depends upon the tension between the consciousness of *being other than God* and that of *being one with God*, and cannot afford to abolish either in favour of the other

(2) While religion cannot be content with ascribing personality to its object in a sense which would set the worshipper and his God side by side after the fashion of two finite persons, and make their personalities mutually exclusive, yet still less can it be content to ascribe to God a less completely concrete individuality than to his worshipper, so that in no sense of personality in which the word connotes the kind of actual substantial existence of which we are aware in ourselves and in our fellows can it be ascribed to the worshipper and denied to God

(3) The mystery of personality or (if we prefer the expression) of concrete or substantial individuality, which must ever elude the grasp of any general explanation or account of the spiritual nature which yet *exists* in this way and only in this way, involves the presence in religious experience of a genuinely personal relation as an abiding moment or factor in that spiritual life which is in that experience revealed as the supreme and ultimate Reality

THE PSYCHOLOGY OF RELIGIOUS DOGMA

ROBERT H THOULESS M A Ph D

THE psychologist finds himself in disagreement with a method of treating religious dogma current amongst many philosophers and theologians who regard it as a purely intellectual matter with an entirely intellectual history. This tradition belongs not only to philosophers and theologians, students of comparative religions have, in the past erred in the same way. Tylor for example, lays it down as the first condition for research into primitive religions that 'the religious doctrines and practices examined are treated as belonging to theological systems devised by human reason without supernatural aid or revelation'.¹ Elsewhere he says that the student will 'search for the reasonable thought which once gave life to observances now become in seeming or reality the most abject and superstitious folly'.² Without undervaluing the very great advance made by Tylor in studying primitive religions, we can see clearly in these passages an entirely unproved assumption that primitive rites and dogmas are products not merely of intellectual but of rational processes.

To the psychologist (at least, to the psychologist who accepts behaviour as part of his field of study) this method of treating religious dogma seems to be disastrously wrong in emphasis. To him the behaviour which goes side by side with a belief is an essential ingredient in the whole system of reactions of which the belief forms a part. By religious dogma we mean a religious belief held by a social group. We ought not merely to study the religious behaviour of a social group in order to infer its dogmas as if these were the only independent realities in the religion of the group. Rather we must study the rites, moral customs, and devotional customs of a community as things significant in themselves and as essential ingredients in the significance of any verbal formulations of dogma which we know to be held by the community.

A recognition of this principle is to be found in the work of the religious philosopher Professor LeRoy, who says 'Un dogme a surtout un sens pratique. Il énonce avant tout une prescription d'ordre pratique. Il est plus que tout la formule d'une règle de conduite pratique. Là est sa principale valeur, là sa signification positive'.³ Thus the dogma of the Fatherhood of God means that the religious

¹ *Primitive Culture* F B Tylor vol 1 London 1871

² *Ibid* ³ *Dogme et Critique* É le Roy Paris 1907

man must behave in relationship to God as he would to a Father. The real presence of Jesus Christ in the sacrament means that the believer behaves before the consecrated elements as if Christ Himself were there. LeRoy's thesis has been severely handled by his co-religionists. Whatever may be the objections to this method of approach as theology, it is certainly a safe rule for the psychological study of dogma. When a man tells us that he believes something, we must find out what that belief means in behaviour and in emotional attitude. When a community professes a dogma, we must similarly find out what that belief means in the behaviour of the community. This behaviour may well be the principal explanation of why the belief or dogma is held.

We may go further and suggest that instead of a social rite being necessarily the product of a process of verbal thinking, the reverse relationship may hold. The verbal thinking which is enshrined in dogma may be the product of an element of social behaviour. It is generally recognized that the verbal reason given by a psychoneurotic in explanation of an individual behaviour compulsion may not express the cause of that compulsion, but that the compulsion may have existed first and have produced the reasoning. A process analogous to such rationalization may sometimes underlie the evolution of dogma. A religious rite may be the parent rather than the offspring of a reasonable thought. Religious dogma may be the result in part at least of applying more or less reasonable thought to previously existing social behaviour compulsions.

Professor Dasgupta describes for example a stage in the development of Indian religion in which the principal feature of the religion was the precise carrying out of the ritual of sacrifice.¹ The ritual requirements of such predominantly ritualistic religions remind one forcibly of the compulsive behaviour of psychoneurotics. There seems to be the same immediateness of the behaviour demands—i.e. the behaviour is carried out because the participant feels the compulsion to do it and not because it is the logical consequence of a train of thought and anxiety develops if it is not carried out. This anxiety finds its expression in a conviction that all misfortunes are due to unwitting deviations from the prescribed ritual.

Such systems of ritual requirement may be regarded as community compulsions. Undoubtedly they sometimes arise by a process of degeneration in which ritual remains while the accompanying beliefs have largely disappeared (as Rivers believes to have been the case amongst the Todas²). But may they not also arise as independent growths amongst communities too little developed intellectually to

¹ *A History of Indian Philosophy* S. Dasgupta vol. 1 Cambridge 1922

² *The Todas* W. H. R. Rivers London 1906

have elaborated a system of dogma and to be that in behaviour which will become dogma when it is verbally expressed or intellectualized? If this is the case, as I suggest it may have been in the early sacrificial religion of India, such behaviour compulsions have undoubtedly themselves had a mental history. They may have arisen because they served the emotional or practical needs of the members of the group, or of the group itself. They may have started in the social group in which they are found as transplanted culture elements. In all stages of the development of such ritual requirements they will be associated with verbal thinking of a kind. When sufficient intellectual development has been reached for some measure of consistency and clearness in these verbalizations to be required, they become intellectual expressions of what is "implied" in the ritual. The ritual develops into dogma as it becomes intellectualized.

We can apply this principle to one of the controversial questions of comparative religions—the significance of funeral rites. In burials as early as Neolithic times and in primitive countries at the present day we find evidence of rites which suggest revivification of the dead body—smearing with red ochre and pouring water into the mouth. We also find ceremonies suggesting provision for the needs of the dead—such as burial of food, weapons, etc.—and others which suggest fear of the harm which the dead can do to the living. Anthropologists have very generally followed the lead of Tylor in regarding such customs as evidence for the existence of verbally formulated beliefs about the future life whose nature we could discover by examination of the customs.

But that behaviour of this kind is evidence for any beliefs in the minds of those carrying it out is not obvious if we can bring ourselves to regard a piece of behaviour as existing in its own right and not as a mere appendage of a mental fact. Belief is an affective attitude towards a proposition. Until a proposition is formulated and the possibility of its denial is realized, we cannot properly speak of belief. A similar affective attitude towards a prescribed piece of behaviour may well precede in part or wholly any propositionizing about it. Thus a dogma may be the offspring of a community behaviour compulsion instead of the community compulsion being the offspring of its associated dogma.

I suggest that this may well have been the case in primitive funeral rites. They may have originated simply from the familiar emotional tendency of grief to refuse to accept the loss of the beloved object, complicated by the opposite emotional tendency (also present in ourselves) to feel repugnance from and fear of the corpse, particularly after decomposition has started.

It must be admitted that we can have no sufficient reason for saying that this kind of behaviour with respect to the dead has

preceded in time all verbal formulation of beliefs about the needs of the dead in a future life and of their power of injuring survivors. Such verbal formulations can be themselves reactions to the two tendencies of emotion which lead respectively to the funeral rites suggesting care for the needs of the dead and the propitiation of the dead. Verbal formulations of a crude kind may well be coincident in time with the earliest ritual behaviour. The error against which we must be on our guard is the supposition that these verbal formulations led to the behaviour. Rather we must regard the behaviour as a direct response to the situation of deprivation of a loved person, and the dogmas with respect to a future life as partly also a direct response to the same situation, partly as a subsequent rationalization of the behaviour which has become a standardized community compulsion.

That the behaviour compulsion found in primitive funeral rites can exist without the crude animistic beliefs which it seems to imply is well illustrated by the fact that we find an exactly similar rite carried out after the death of a distinguished man in England during the last century. It is stated that, after the death of Prince Albert, Queen Victoria commanded that "her husband's clothing should be laid afresh, each evening, upon the bed, and that, each evening, the water should be set ready in the basin, as if he were still alive," and that this rite "was performed with scrupulous regularity for nearly forty years".¹

Here we have a piece of behaviour exactly parallel with the provision of weapons and food in the graves of the dead. No one, however, could suppose that Victoria believed that Albert had need of his clothes and warm water for the comfort of his spirit in the next world. She held the orthodox Christian views of his destination and occupation in the future life. What she had in common with primitive man (and with us all) was the tendency of grief to refuse to accept the loss of the beloved object and the feeling that it was intolerable to abstain from a piece of behaviour concerning the loved object when such abstention would imply the reality of the loss. We can all understand this emotion and this impulse because we all share them. We are prevented from carrying out the behaviour itself through our habit of behaving in accordance with the reality principle (perhaps stronger in ourselves than in Queen Victoria).

The ordinary reaction of members of civilized communities to the emotions arising from loss by death is, however, one which takes place almost entirely on the plane of the thought processes. The reaction is principally a belief about the future existence of the deceased person, not a way of behaving with respect to his body. The passage of the Nicæan Creed "I believe in the resurrection of the

¹ *Queen Victoria* Lytton Strachey, London 1921

body is the intellectualized equivalent of the primitive rite of smearing ochre over the corpse. It too is motivated by grief at the deprivation and refuses to accept the reality of that deprivation. Between this passage of the creed and the primitive rites lies the gulf which separates dogma itself from the original behaviour compulsions which contain the seed of dogmatic development.

The principle that a dogma is best understood by studying its behaviour implications could be widely illustrated by other examples from Christian dogmas and from those of other religions. A few examples must here suffice. The dogma of the separate creation of man means in behaviour that a man must be treated and valued in an entirely different way from the lower animals. The common belief of orthodox Christianity that the God of the New Testament is the same as the God of the Old Testament who made the World means in behaviour the general (although not the detailed) acceptance of things as they are. Its implications are predominantly conservative. It is essentially opposed to the Gnostic doctrine against which in the early centuries of the Christian Church the Catholic doctrine waged a successful battle. The Gnostics taught that the God revealed by Christ was opposed to the Creator of things as they are. The behaviour implications of this doctrine are plainly revolutionary, and it has been revived at various periods by revolutionary spirits (such as Shelley). Probably the overthrow of the Gnostic doctrine was not unconnected with the fact that the Christian Church became increasingly conservative in its outlook as it allied itself with the civil authorities. In non-Christian religions may be mentioned the very characteristic dogma of the Buddha that all things are non-enduring: *i.e.* are actually different things from moment to moment. The behaviour implication of this is that one should treat all things as transitory and therefore unimportant: that one should be bound to them by no enduring sentiments.

A dogma which has no other marked behaviour implications may have vital significance for the community holding it because it serves as a group distinguishing mark. Ritual too may serve this end, and a difference in rite is sometimes sufficient to make it impossible for two religious groups to share any common religious life although there are not strong differences in dogma. More commonly, however, in the history of Christianity at any rate, essential group differences have been differences of dogma. Thus the Christian Church was split in two over the question of whether the Holy Ghost proceeded from the Father and the Son or from the Father. It would be difficult to find a theological controversy more remote from behaviour implications. The devotional attitude of Eastern and Western Christians towards the Holy Ghost was the same. The significance of the dispute lay in the fact of the political and ecclesi-

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astical rivalry of the Western and Eastern Churches and this formula was a distinguishing mark between these two groups.

If we admit the fact that a dogma is primarily an intellectualized bit of behaviour we may be tempted to go further and to say that all dogma has its origin in behaviour tendencies and that the history of dogmatic development is simply the history of the intellectual reflection of changing religious emotional and practical need. The history of dogma however contradicts such a simple assumption. Once a dogma has been verbally formulated however intimate may have been its initial relationship with religious practice the verbal formulation attains a certain measure of independence. It may be elaborated and give rise to new dogmas for purely verbal (or intellectual) reasons. Dogmatic development falls largely into the hands of religious philosophers who are more concerned with intellectual consistency than with practical needs. Under intellectual attack and criticism (as in the early Christian controversies with the heretics) or as a result of the professional speculations of teaching philosophers (as in the elaboration of Scholasticism) enormous bodies of dogma are built up with few behaviour implications or none at all. Such bodies of dogma are of little significance to the great majority of believers except as constituents of a whole whose integrity must be preserved in order to keep unquestionable other items of belief which they feel to be of vital practical importance. Examples of such growths of dogma are to be found in the Scholastic Philosophy of Catholic Christianity in the literature of the Theistic (Hāmavāna) school of Buddhism and in the logical speculations of several of the orthodox Hindu systems.

Another factor influencing the development of religious dogma is the necessity for its affirmations to be consistent with other commonly held beliefs. Men have a considerable but not unlimited power of simultaneously believing mutually inconsistent propositions. A dogma which enshrines a real behaviour need may therefore be given up simply because it is inconsistent with other propositions believed to be true. Thus the dogma of the special creation of man has been given up in a great part of Christendom not because the behaviour it implied has been modified (human life and human needs still have a totally different order of value for us from those of the other animals) but simply because it is inconsistent with overwhelmingly strong biological and geological evidence. What has happened has been not that the doctrine of special creation has proved permanently resistant to the influence of scientific evidence but that the doctrine of evolution has been accepted in a form which serves the old ways of behaviour equally well.

Although therefore dogma may be regarded as primarily an intellectual formulation of a piece of behaviour it must be recognized

that such intellectual formulations may become independent of behaviour implications and pursue a course of purely intellectual elaboration. It remains true that the dogma which has real significance to the religious worshipper is the dogma that has present implications for behaviour.

THE CONCEPTION OF EXCESS-VALUE IN BIOLOGY

PROFESSOR JAMES JOHNSTONE

By an "organism" I mean a living thing, in the most ordinary sense. There is an "organic theory of nature" in which the term "organism" is extended so as to include atoms, molecules, crystals, colloidal micelles, etc. such constellations of parts have been called "inorganic organisms" by Driesch. I shall regard them as the "results of organization." As we know them they are "models" (variant with the progress of physics), and they exist in the minds of physicists just as differential equations are in the minds of mathematicians. They express arrangements just as a trade union (an organization) is an arrangement, and just as artifacts, such as the nest of a chaffinch or the sleeping-bag of an Arctic explorer, are expressions of arrangements.

Living things are simply recognized by us in such ways that there never has been any continued confusion in biology between organic and inorganic things. (Even in geology there has not been much confusion between artifacts and things that simulate only the results of arrangements by organisms.)

An organism is a constellation of things and energies that exhibits tendencies or urges. These urges are (1) self-preservation, (2) growth with differentiation, (3) reproduction with differentiation, (4), and subsidiary to (1), adaptability of activities, and (5), and subsidiary to (1), (2), and (3), nutrition. These urges are the proper data of biology, and while we dare not say that inorganic things do not display them, yet it is true that they are overwhelmingly characteristic of living things (as recognized by us) in contrast with non-living things.

Self-preservation—An organism tends to perpetuate, to an indefinite extent, its own particular form and activities.

Adaptability—Such activities are not of unvariable patterns, and they are not unique responses to natural stimuli. The organism varies its modes of behaviour and organic functioning (by trial, error and final choice) so that they tend all the more to continued self-preservation.

Growth, in the "simple" form, can be envisaged by observing how the mass of a sphere of homogeneous material is a strict function of the increasing length of the radius. Such simple growth is only a "limiting case" in biology, for the form of an organism changes as it grows—this is differentiation in individual development.

Reproduction is (in a way) growth with dissociation. In it the organism duplicates its individual body so that the number of exemplars of every particular organic form tends to increase *acceleratively* and to become indefinitely great. But each organic form remains invariant only throughout small periods of geological time for there is evolution (that is reproduction with differentiation).

Nutrition—The organism selects materials from the environment digests and assimilates these (making them *similar* to the materials of its own bodily tissues). It builds or arranges the assimilated materials into tissues. In growth and reproduction there are tectonic activities.

Organisms immediately experience the urges as needs and desires. I so experience them and I extend the experience to other human animals. (If I deny this extension living in a human community and speaking the denial, I am obviously intellectually dishonest.) So also we extend the experiences of needs and desires to (at least) some higher non human animals that are in community with us (since we reward or punish, praise or blame them). The need or desire evokes activity *expected* to satisfy, if the activity does not satisfy, it is varied by trial and error. If it succeeds, satisfaction is felt. Satisfaction obviously may deepen into pleasure, dissatisfaction into pain. We cannot (without foolishness) doubt that some other animals than man also experience such satisfaction, pleasure, etc., but we may hesitate to ascribe these feelings to say, a *Paramœcium* hunting for food or avoiding nocuous stimuli. But again, it is very difficult to doubt that in the capture of the food, or in the avoidance of the nocuous stimulus the *Paramœcium* attains, or maintains normality. Normality implies continued self preservation and reproduction.

Excess Value of the Urge—By "value" I mean measurements simply. An urge manifests itself in arrangements of things that have physical denominations. When the urge is successful and normality is attained and maintained, some measurable physico-chemical arrangements have been made. The urge may persist and still manifest itself in continued physico-chemical arrangements after the condition of normality has been attained, and it is then said to have excess-value.

Excess-Value in Self Preservation—Animals cling to individual life after that life has lost biological significance (in the phase of reproductive inactivity). In Swift's unpleasant fiction of the Struldbrugs, the conception receives fantastic emphasis.

Excess Value in Reproduction—We make the conception of racial normality. For prolonged periods of time (in the human sense) animal populations attain equilibrium. Death rates become approximately stabilized. A certain birth rate becomes competent to main-

tain the equilibrium, but, as a rule, and in the wild, this birth rate is exceeded. Not always, of course, for in some fishes (for instance) there is a low birth rate, there is probably seasonal monogamy, and there is protection or nurture of the embryos. But in most cases there is absolute promiscuity (ova and spermatozoa being emitted into the sea to fertilize at random, and develop there), and there is an enormous birth rate (millions to an annual breeding season). This is reproductive excess. Other illustrations (to which I recur) will suggest themselves.

Excess-Value in Growth—There is no limit to growth in the wide sense (which takes in reproduction). Growth of the individual has limits imposed upon it, but the urge itself is without limit. Growth of the parts of an animal body is regulated, since the parts of the body are a harmony—this is normality. But excess-value of growth occurs in the cases of derangements of the internal secretions. More frequently there is malignant growth, manifested in tumour-formation. Obviously the urge has excess-value in such cases.

Excess-Value in Evolution—It has been said that the evolutionary process may acquire "momentum." The analogy is loose, but this is what is meant: the evolutionary process means rearrangements of bodily forms and activities, and the rearrangements arise from the expressions of needs or desires, or they occur at random and are selected. But however organic transformism is to be explained, there occur these bodily, functional, and behaviouristic changes, which become "transmitted by heredity." The changes have significance in extending the range, dominance, and power of the races that evolve.

But it is clear that evolutionary changes may not have the latter significance. The changes may result in "over-specialization," and then they may not be such as subserve increased dominance, while they utilize the energy of growth. Thus the paleozoic trilobites, the mesozoic ammonites, the mesozoic reptiles, etc., over-specialized—or so their later complexity of bodily form seems to us to indicate. This we interpret as excess-value in transformism. Normality was attained at some phase of the process, but the urge continued.

Excess-Value in Nutrition—An animal of constant weight and in nitrogenous equilibrium has attained normality. Its income of energy is represented by so much protein, fat, carbohydrate, etc. (so many calories). Its output is represented by heat lost, work done externally and internally, and by its excretions (as many calories as represent the input). More food, or a surplus of some kind of food, represents nutritional excess-value.

Consequences of Excess Value—(1) *The disharmonies of evolution*. Extinctions of races, vestigial structures (as the human appendix vermiformis), tendencies to sexual sterility (as may be proceeding

in the modern gorgeous flowering plants) the bizarre complexities of the parasitic habit in multitudes of animals the stereotyping of instinctive behaviours as seen in many ant species and so on (2) *Efflorescence in human reproduction* Perversion prostitution etc erotic and pornographic art romance the lovers poets etc Freudian sublimations the courtship of animals etc (3) *Nutritional excess* The banquet (4) *Self preservation in excess* Sport especially killing for sport perhaps cruelty in man and some other animals (5) *Hoarding and avarice* where the property instinct is in excess (6) *Aristocracies and castes* which elaborate the family instinct—with primogeniture and a host of legal devices (7) *Play*—which more than most forms of behaviour manifests sheer joyousness but can usually be traced to anticipatory activity—self defence hunting killing the maternal instinct etc and so on (8) *Fabrication in excess*

Fabricational Excess—Here we link up excess value with art. Animals select objects from their natural environment and use these things for some purpose stones etc used as missiles holes and caves utilized as shelters the empty shells of gasteropods inhabited by hermit crabs etc The natural objects so utilized may be arranged shaped or otherwise altered as in the cases of nests hives burrows etc The amount of such alteration or arrangement may vary greatly. Thus the sandy tubes inhabited by the marine worm *Sabellaria* are rude structures but those made by *Pectinaria* are elegant each sand grain being put in place individually or we may compare the uncouth nest of a crow with the beautiful thing built by a chaffinch. Here the terms elegant and beautiful have often been employed in just the above senses by naturalists—they suggest in what ways biological excess value can be made to explain one ingredient in a work of art.

Man has emphasized this degree of elaboration in the fabrication of things utilized by him. Thus the difference between paleolithic and neolithic chipped flint implements Azilian signs on pebbles and modern writing a peasant's hut and a well built stone house a shaped and hollowed out tree trunk and a clinker built boat and so on. These instances compare rude (and less efficient) things with things of the same class that are more elaborated (and more efficient) yet it is not possible always to connote degrees of elaboration with degrees of efficiency in such ways. It is clear that elaboration of human artifacts may simply be excess value of fabrication. It is clear that a plain brick house simply rectangular in all its sections—with square holes fitted with various kinds of valves with a suitably pitched roof and so on—may be just as efficient as a shelter as it would be when decorated in the ways that we see. Plainly similar remarks may be made about human clothing—which more than

any other artifacts, displays excess-value. Innumerable examples of excess-value, in the forms of ornaments of all kinds, in almost every article used by all but the very poorest men and women, can easily be thought about.

Beauty, Elegance, and Excess-Value—Consider these experiences (1) Seeing the cloud-forms and colours in some sunsets, (2) hearing (and reading) some well known melodic phrase, with its harmonies, (3) reading (and hearing) some such sentence as "The dawn in russet mantle clad", (4) tasting, smelling and seeing old sloe-gin, (5) touching the fur of a cat (for some persons, at all events!), (6) reading (and understanding) Euclid's demonstration that the angle in a semicircle is a right angle.

In all these experiences there is something pleasurable, and thus we may call beauty, meaning simply that it is an unanalysable elementary experience.

In a work of art there are, I take it, many ingredients. I consider only these ones. The indefinable ingredient of beauty—that which gives us pleasure, and the ingredient of *elegance*. Elegance expresses excess-value, it is the manifestation of a technique. Some pieces of furniture, some glass ware, jewellery, some tapestries, book-bindings, notably buildings that are fine, and so on, exhibit the results of techniques. The colours and lustres of old furniture, glass-ware, cut gem-stones, etc., may simply be beautiful in themselves, but obviously the main ingredient of the pleasure obtained in contemplating these objects is in the evidence of techniques successfully applied—that is, in the elegance of the things. In a piece of furniture there may be the indefinable "finish," that is, fastidiousness of craftsmanship—that is, elegance. This is obviously only to be fully appreciated by the craftsman, or the rare amateur who knows "how it was done." And plainly this fabrication of the piece is almost entirely excess value, for a chair and table quite adequate for sitting upon and lifting food from, or a wardrobe that is a convenient receptacle for one's garments, may be simple and merely adequate things that aid in the normality of human living. Yet upon these things much labour may have been expended—labour far in excess of that quantity necessary for normality. Obviously, all this may also be said about houses, public buildings, bridges, and railways stations (or some of them). Such structures may display an excess of fabrication far beyond that necessary for human shelters, offices where business is being transacted, means of transport, etc. The excess-value, originally made for the pleasure of the craftsman, has now the function of giving pleasure to others who merely contemplate its manifestations.

Music may serve as an example of art in general. Plainly, very much of the pleasure derived from performing music, reading it,

or merely listening to its performance by others, comes from the elegance with which progressions, modulations, and harmonies are *composed* that is arranged, or made, it follows from this that the 'appreciation of music in the fullest degree, can only be experienced when one knows how it was made'

There is of course beauty in music quite apart from the elegance of the composition—that is, the command of technique of the composer. That there *ought to be* beauty of melody and harmonies that are agreeable (or beautiful) has been denied—or at all events, it has been contended that music that has great merit need not be melodious and that harmonies that used to be called dissonant may be employed in its composition. Thus fine music need not be beautiful or rather what we have been accustomed to call beautiful. The merit is therefore in the elegance of the work. Quite a good analogy may so be made between such musical compositions and mathematical proofs and other processes. It is a commonplace in mathematical writings to refer to results and proofs as "elegant", there may be great pleasure in making and drawing clearly the graph of some elaborate function, and many people remember the thrill of satisfaction experienced on first appreciating, say, the proof of Euclid's demonstration that the angle in a semicircle is a right angle.

Such techniques are progressive ones, and it is the case that their advance depends to some extent, on the removal of restrictions. Thus the removal of the convention that a negative quantity could not have a square root has been useful, that the result of adding a to b need not be the same as that of adding b to a was another advance. The abandonment of the concept of a rigid body, the throwing overboard of the Euclidian metric, and the rejection of the idea that a gauge would be unchanged no matter by what paths it might be transported for measuring purposes, are landmarks in the development of modern physical theory. So also, it might be contended the removal of the conventions that regulated modulations and harmonies that provided for tonality, etc., have led to the advance of musical composition in strictly modern times. It is, of course, the case that the removal of old conventions has not only made mathematical operations more elegant, but also *much more powerful* as methods of physical investigation.

The classic musical compositions have both beauty and elegance. The 'Air on the 4th String', the Choruses, 'Et incarnatus est,' and 'Sanctus Dominus' from Bach's B minor Mass, are very different in many ways but all these compositions have extraordinary beauty and the last one, because of its complexity, has an equally great degree of elegance. It is significant that the music that makes powerful emotional appeal should be correspondingly complex in

structure. In Bach's "Sanctus Dominus," and in the "Ossana" from the *Missa Brevis* of Palestrina, the emotional appeal can be felt in an extraordinary way, and the massiveness of the former work is indicative of its technical complexity. Now compare, say, Alfio's song in *Cavalleria* ("My heart, my heart is bro-o-ken His doom, his doom is spo-o-ken"), or "Love's old sweet song," and we can see how the triviality of the sentiment is on a level with the technique! Most plainly beauty is an ingredient of the music that has lasted, so is the emotional appeal and so is the fastidiousness (as in Chopin). In such works technique has conferred elegance, but the other ingredients co-exist with the elegance.

The removal of restrictions has added enormously to the power and elegance of mathematical methods but can thus be said of the most modern music? Just now the British people are being solicited to listen, via mass-dissemination by wireless, to progressive music that has availed itself of the removal of old restrictions. In these works neither melody, nor consonant harmony, nor even tonality (it may be), are regarded as essential to the merit of the compositions. (And since their structure cannot easily be appreciated merely by listening, it is difficult to see why it is that the composers should wish the music merely to be heard by uninstructed listeners.)

Thus the merit of a work of art may lie mainly or entirely in its elegance—in the development of what has been called excess value in this note. But many will say that without beauty the work is as nothing—literally, it may be, sounding brass and tinkling cymbal.

RIGHT AND GOOD: THE CONTRADICTION OF MORALITY

PROFESSOR W G DE BURGH

I

WE were led, at the close of the last paper, to the conclusion that the moral judgment lays claim to a knowledge of what is unknowable. It is not merely that our volition is imperfect, that the act of necessity falls short of what we know to be right. This seems bad enough, but the plight in which we actually find ourselves is even worse. The paradox is that we never know, and never can know, in any particular situation, what it is *really* right to do. We know indeed that it is always right, really and absolutely right, to do what we believe to be right. For a man to act "against his conscience," after all possible thought has been taken for its enlightenment, we know to be morally wrong. But this knowledge is purely formal and gives no clue to the matter of moral obligation. It tells us what is common alike to any and every case of moral duty: it does not tell us what we ought to do. For the right that we will cannot be merely the rightness of willing it. What I ought to do cannot be merely that I ought to do it. Now our beliefs and judgments as to material rightness, *i.e.* as to what it is right to do in a concrete situation, are notoriously liable to error. So we seek for a criterion by which to test our variable and fallible judgments: a criterion of what is *really* right. But the search is doomed to failure: we can only test beliefs by beliefs, our former beliefs by our later: the beliefs of one man or society or age by those of others. We can never get beyond what we, or other persons, judge to be right. Thus the moral principle eludes application, it bids us find the absolute in the relative, the objective in the subjectively conditioned, the universal form in a welter of contingent and changing particulars. And we know that this *must* be so, that the failure is matter, not simply of bare fact, but of necessity. We may state the same problem otherwise. What part does our recognition of the rightness play in determining what it is right for us to do? Is the obligation to do the act constituted by our recognition of it? In other words, is there nothing morally right or wrong but "thinking makes it so"? Such a view, which was maintained in regard to "good" and "evil" by Spinoza, appears tantamount to a denial of all objectivity to our moral judgments. It implies that our so called

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judgments are mere feelings of approval and disapproval, as to which no dispute is possible; and that there is no such thing as "really right" at all. Once again, to put the paradox in its most glaring form, if we are never able to know our duty, how can we perform it? And if we are never able to perform it, what meaning is there in calling it our duty? "Ought," as we are never weary of repeating after Kant, implies "can"; yet the right act, the really right act, which is commanded can neither be known nor done. That the command is to do the *really* right act is surely beyond question. We are not bidden to compromise in our morality, to do merely "the best we can," to approximate as far as possible to an ideal standard, which, be it noted, lies beyond our knowledge. We cannot shelve the issue by distinguishing between what is really right and what is our duty, restricting duty and moral obligation to the *effort* to achieve the unachievable. How can it be my duty even to try to do a right that I can never know? The distinction lands us in an unnatural divorce between right and morality. No we cannot escape by any such bypath, we must face the paradox frankly and without shrinking. The moral command is to will what is really right, and to will perfectly, but our volition is perforce imperfect, and what is really right can neither be willed nor known.¹

We need not feel surprise that the theory of morals here presents a difficulty which, as theory of morals, it is powerless to solve. Ethics is but one branch of philosophy, and its fragmentary nature inevitably shows itself in its failure to function as a self-contained and self-explanatory body of knowledge. The contradiction that remains after ethical reflection has done its work marks a moment in a dialectic process which carries thought forward towards its resolution in the more synoptic survey of metaphysics. Moreover, the contradiction has its roots not in the abstract theory of morals, but in the living experience which is the subject-matter of that theory. The moral life is not sufficient to itself. The man who lives by morality alone, whose horizon is bounded by the prescripts of duty, and who has no eye for what lies beyond, finds himself helpless when faced by situations to which moral categories are manifestly inadequate.² He fails even to satisfy the requirements of efficiency

¹ On the seriousness for ethics of the problems of the "really" right act and of the dependence of duty on recognition of it, see Mr. Carritt's *Theory of Morals*, esp. pp. 90-94, 140, and his recent paper read to the Aristotelian Society, June 16, 1930, entitled "Thinking makes it so." He suggests that rightness and wrongness belong not to the bringing about of a certain change, but to the *trying* to bring about a certain change, while he is aware of the difficulties attendant on this view. See also Professor Laird's article "Concerning Right," in *Mind*, July 1929 (No. 151). Both these writers adopt a position widely different from that advocated in this article.

² e.g. Javert in *Les Misérables*.

in his conduct. It is not merely the Stoic who, unless he be much more than a Stoic, is incapable of feeling joy in the hour of martyrdom. In the ordinary occasions of life the pure moralist exemplifies the paradox of moralism. If he rests satisfied with his code, doing the best he can, within its limits, oblivious of the claims of the standard of perfection, he falls into a complacent formalism, and his morality is revealed as immorality. If on the other hand he realizes the implication of perfection, he is shattered by the crushing burden of the contrast between the demand of the moral law and his utter inability to accomplish it.¹ Thus the contradiction elicited by ethical reflection is the counterpart in the sphere of theory of a contradiction inherent in the moral life.

II

Let us look more closely into this dialectic of the moral life. We shall see that it points us to a goal beyond morality.

I. First to get clear on a main issue: an action cannot be right independently on a consciousness that recognizes its rightness. To speak of an act as right when it is right for no one, is as absurd as to speak of an object that is an object out of relation to an experiencing subject. Of course this does not mean that the rightness is constituted solely by relation to the consciousness that apprehends it, any more than the whole being of an object is its being as the subject's mental state. But the relation to consciousness must be there, or the moral predicate is meaningless. Moreover, as was explained in an earlier paper, the consciousness is in the long run that of the man who does the act, when, as an external spectator, I judge that this is right for A to do. I imply that A is capable of recognizing that it is right to do it. Common sense holds firmly by the twofold conviction that while right is right the world over, whether I think it so or not, there is no such thing as right or wrong for a being, say one of the lower animals or a lunatic, who is incapable of recognizing moral distinctions. Yet many writers on ethics fall into the error of supposing acts or classes of acts to be right or wrong *per se*, apart from relation to

¹ Mr S. B. Ward in his *Ways of Life* recognizing the impossibility of satisfying the moral demand, relegates morality to the sphere of pure *theoria*. The moral law is the object of the beatific vision and has no practical significance. From the hopelessness of this impossibility of acting morally, he takes refuge in the cultivation of a sense of humour, provoked by the contrast between the ideal and the practicable. But the situation is too tragic to be thus remedied. Even the fullest measure of humour would have failed to rescue St. Paul from the body of this death (Rom. vii. 24). We may say that while Kant reduces, or tends to reduce, religion to morality, Mr Ward reduces morality to religion.

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a moral consciousness. The error is natural enough, when certain acts are habitually judged right or wrong by the general consensus of opinion, they tend to be spoken of in abstraction as if they were right or wrong in themselves. It is right to pay debts; it is wrong to lie. Nor is there any harm in this usage, so long as, when we frame our ethical theory, we restore the suppressed relation to the knowing mind. Danger arises when we think of a right act as right for a merely *possible* consciousness, when, for instance, admitting that no one knows what it is really right to do, we speak of the ideally right act as one which a possible, but not actual, consciousness would pronounce right. Such language is deceptive unless there be in fact a mind, finite or omniscient human or divine, that is actually conscious of the rightness of the ideal act. That possibility is not prior to actuality, but the reverse, is a metaphysical first principle which we must here assume without discussion. The further question, whether such consciousness can be confined to the knowledge of what is really right, and does not also involve volition of it, will be considered presently. The more immediate issue is that of the knowability of the ideal standard by the human mind.

2 The ideally right act cannot be known—and, *a fortiori*, cannot be willed—by any finite being like ourselves. I am not raising the question whether, if this were possible, we should not be creating the rightness of the act in knowing it. For we have already seen how our apprehension of the moral law falls short through its bare formality. This is, I believe, where Kant stumbled in his doctrine of man's moral autonomy. We are indeed self-legislative in moral volition, and our moral personality is constituted by this self-legislation, but the autonomy and the personality are alike imperfect. The moral law speaks with unconditional authority, and, as Martineau has insisted, nothing can have such authority "that is not higher than we." There is that in the law—its matter or content—that lies beyond our knowledge and our volition. We are members, not sovereign, in the kingdom of ends. In admitting this, as also in his discrimination between the good will and the holy, Kant recognized the limitation that besets the moral consciousness of man. Men's actual moral judgments are ever fallible. They are beliefs or opinions, not, in the full sense of the term, knowledge.

I cannot accept the doctrine held by Professor Prichard and by many others, that it is possible to *know* (as distinct from to believe, opine, or think) a particular act to be right. This doctrine involves (a) the view discussed in the previous article that an act is right or wrong in entire independence of the agent's motives; and (b) the view which I regard as equally erroneous that a particular act, e.g. payment of a certain debt, can be judged right or wrong in isolation from its context. I hold to degrees of rightness, as also to degrees of truth. Each particular volition is a phase or moment in a train

We need not dwell on this fallibility of conscience which strangely enough is apt to trouble the mind of the plain man when he begins to think on problems of morals. It is forced on us both by a *a priori* reasoning—for our knowledge is limited and our powers of will defective—and by manifest experience. How else would moral advance and moral education whether in the race or in the individual be possible? Nor does the liability to error give cause either for opportunism or for moral scepticism. We are in the same predicament—no better and no worse—as in the search for scientific or historical truth. No particular truth is wholly true and every error contains a kernel of truth within its falsity. So too there is ever a soul of goodness in things evil. Again just as in history or science we trust the trained intelligence of the expert and are not deceived so in moral matters we trust the trained character. When in doubt as to our duty we seek counsel from the best man we know. The intuitions that arise from survey of the data—intuitions in the one case of what is true in the other of what is right—are not infallible yet neither are they bereft of objectivity. Our moral capacity is just the power to discern the closest approximation to the ideal standard. In proportion as this capacity has been trained not by mere ethical thinking—here is the difference from education in theoretic knowledge—but by moral practice its judgments as to right and wrong are reliable. There is even less ground for scepticism in morals than in the case of speculative truth. Despite the variations of moral beliefs and practice among different races at different levels of civilization a wider consensus can probably be discerned in men's principles of conduct than in their estimates of scientific truth. We have only to think of the gulf that separates the ideas of primitive races on the nature of motion or the processes of organic life on the heavenly bodies or the causes and remedies of disease from those of the modern physicist biologist or doctor. Once more supposing that finality were attainable in men's moral judgments and that they were capable of determining in particular cases what it was *really* right to do the moral effect of such knowledge would be disastrous. The human race would find itself placed in mechanical subjection to a stereotyped code of ethical rules. The path of duty would lie plain before our eyes. There would be no call for the exercise of moral responsibility for the venture of faith that is the well spring of moral character. When confronted by the fear of scepticism it is well to remember Kant's of volitions which expands to cover the whole of the agent's moral life. Similarly as regards theoretic knowledge I cannot believe that any single judgment even in mathematics can be in its isolation utterly and entirely true. The *vera idea* which is the norm of itself and of the false can only be the intuitive vision of the whole reality. All human knowledge in science or in ethics is of necessity incomplete.

pregnant observation that, in moral knowledge as elsewhere the author of our being has shown his wisdom not only in what he has granted but in what he has denied

3 We cannot know or will what is *really* right Yet in every moral act it is both known and willed Otherwise there would be no *moral* consciousness no *moral* act at all Let us explain We have seen that the moral command is to will perfection and that every particular act of will is of necessity imperfect In willing duty I can only will it as this duty of mine here and now envisaged and willed under empirical conditions of my particular selfhood and of the particular situation in which I find myself Hence it is conceived and willed imperfectly Yet in knowing and willing this duty as *duty* I therein both know and will duty universal not *in vacuo* but as imperfectly embodied in the particular volition I will not merely the particular but the universal in the particular Hence when I have done the particular duty when I have saved the life or paid the debt what I have done falls short of what I willed to do Self complacency is shattered by the recognition of the defect in my achievement The higher the moral plane on which a man is living the more poignantly is he conscious of the failure He has merely done his best but his best is not *the* best which he willed to realize Hence, again duties are found to clash with one another in human practice and men are driven to choose the higher among conflicting obligations¹ So once more in the course of the moral life duty arises out of duty in an endless series The ideal though present in the homeliest as in the grandest and most historic of moral actions is incommensurable with any and all alike It is at once immanent in all and transcendent of all We can now see in what sense the moral ideal is known and in what sense it is unknowable We know *that* there is a moral law a principle of objective rightness but *what* it is—its content—we cannot know We know only its bare form or as Kant expressed it once and for all its universality as law We have the knowledge that suffices for assurance of its reality Kant distinguished this moral knowledge sharply—oversharply perhaps—from knowledge in the strict sense, the knowledge of reasoned science He called it knowledge by way of moral faith And we have seen that it is generated and clarified by habituation in moral action rather than by processes of intellectual inquiry² The *theoria* with its certitude has its source in

¹ On collision of duties see Bradley *Ethical Studies* pp 224-228

² Kant failed to see that science also rests on a reasonable faith Every where in the activity of the human spirit the sphere of reason transcends that of logic and demonstration See my article on Logic and Faith in an earlier number of this *Journal* (Vol I No 4) This point has been very clearly brought out by Dr Tennant in his *Philosophical Theology* *passim*

praxis The path of moral insight is thus open to the unlettered as well as—even more than—to the learned, whose vision is prone to be obscured by sophistry. Herein for Kant lay the worth of man as man—the democratic lesson he had learnt from Rousseau—perhaps the one message of enduring value imparted by that perverted spirit to mankind.

4 The moral life is thus the unceasing endeavour to achieve the impossible—to will what is for ever unrealizable. Herein lies its contradiction. The command is to will perfectly, and we can only obey it by doing 'the best we can.' Neither ourselves nor our environment permit of more than this. No act of individual will is fully in harmony with itself, nor can we conceive an actual society the wills of whose members are fully in harmony with one another. The kingdom of ends remains an unrealizable ideal, which as moral beings we are under obligation to realize in fact. How can we escape from this contradiction? Not by confining our view to the field of ethics, for the contradiction is intrinsic to morality. Suppose *per impossibile* the contradiction to be removed, the ideal to be made real, the command of duty perfectly performed, and you have abolished the very possibility of morality. Morality draws its life-blood from the conflict against immorality, and perishes, as morality, when the conflict terminates in final victory. 'Ought' has meaning only so long as there is liability to disobedience. We are brought back, in our search for a solution, to the point with which we began. The moral ideal cannot be a mere possibility of thought. It is full late in the day to be stranded in the quagmire of Conceptualism. And how, if the ideal were a mere product of human thinking, could we account for the absoluteness of the obligation to realize it? It must be actual—something that is really known and really willed—yet it cannot be actual for any finite mind. Here, if any where, is the basis for what is known as the 'moral' argument to theism—an argument first emphasized, though in a manner blurred by his peculiar presuppositions, by Kant. Freed from obscurity, it may be stated thus: What is perfectly right must be known actually, and can only be known actually to a perfect moral being, God. Moreover, if known to God, it cannot be known *in vacuo*. His knowledge must be of the right as actually realized by a perfect will. The knowledge of God must be, as Kant, in the line of a great tradition conceived it, a knowledge that is constitutive of the thing known—a knowledge that, unlike ours, is also creative will. The solution here put forward in answer to the question, What is really right? carries us beyond the confines of ethics into the field of religion. For religion, the ideal is real, the kingdom of ends is accomplished in actuality. 'Ought' and 'is' no longer fall apart, the world

* On these antinomies, see Bradley, *Ethical Studies*, pp. 230-235, 319-333.

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of values is made one with the world of fact. The Sisyphus stone of sin has been removed by atoning grace, and man, who lay hopeless and helpless before the impracticable precept of the moral law, stands freely justified before God by faith.¹ There are difficulties, doubtless, in this position, but they are non-existent for the religious consciousness. They arise only when the philosopher, "painting his grey in grey," strives to interpret the data of religion in terms intelligible to speculative reason.² We cannot enter upon these questions in this series of papers. They are referred to here simply as illustration that moral experience itself points beyond morality, and that the solution of its antinomies must be sought not in ethics but in religion. Analogous antinomies indicating a like solution will be found present in the life directed towards good.

III

The position maintained in the foregoing analysis, viz. that the moral law is incommensurable with any code of particular duties, and that it therefore transcends both formulation and accomplishment, will be questioned by many, on the ground that men habitually recognize and perform their obligations without being aware of the transcendence. The moral law, as such, simply does not enter into their calculations. Most certainly this is so, just as they normally will to move their own and other bodies without thought of the causal relation which is nevertheless implied in their behaviour. Explicit recognition of the universality of the moral law came late in the day, the world had to wait for Kant to bring it fully into evidence. But what Kant stated explicitly was implicit in moral experience from the first. A brief glance at the chief phases in the development of that experience will help to make this clear. The distinctions to be noted do not present a strict order of temporal succession, for in morals "earlier" and "later" are not identical with "lower" and "higher," and the "lower" forms of moral apprehension are found to persist after the "higher" levels have been attained.

1. We distinguish, first, a pre-moral or non-moral plane of conduct, when action is directed merely to practical adjustment, without consciousness of moral obligation. Whether there ever was a time when all human conduct was of this order is a question that need not trouble us, it was certainly more prevalent among primitive than among civilized mankind. It is exemplified in every age in men's instantaneous responses to their environment, when these are neither mere reflex actions on the one hand, nor exhibitions

¹ See Bradley *loc cit*

² The central difficulty is that of the reconciliation of divine predestination and grace with man's freedom and moral responsibility.

of moral habits on the other I wake suddenly to find that my bedroom curtain is on fire, I leap out of bed, tear down the curtain, and extinguish or stamp out the flames. Of course, moral character may function here, and the thought of duty, flashing into my mind, may operate as a motive but such is not necessarily the case. Nor need the act be prompted by prudence and the desire of self-preservation in all likelihood there is no end before my mind at all. The action is non moral, to use Croce's term, it is purely "economic" its standard is not duty, but practical efficiency.¹ Similar actions, of a less dramatic nature, recur constantly in the ordinary course of life. There is a job to be done, a bit of business to be got through, and we tackle it, not as a matter of obligation, but of practical exigency, not because we "ought" to do it, but because we "must." We have already noted the double meaning of the Latin gerundive, "*faciendum*" means both 'what ought to be done' (moral) and 'what has got to be done' (non moral). We noted also how the term "right" has a wider and non moral usage, to signify mere efficient adjustment to the situation of fact. What it is important to remark here is the implication of universality and law, the act, though non moral, is not prompted by subjective want or inclination, but is a response to the objective requirements of the situation. It admits of valuation as right or wrong, though not as morally right or wrong. The late Poet Laureate has illustrated this implication quaintly in the fourth book of his *Testament of Beauty* where he shows how duty and "ethic" have their birth out of the pre moral type of action

There is a young black ouzel now building her nest
under the Rosemary on the wall suspiciously
shunning my observation as I sit in the porch
intentiv with my pencil as she with her beak
Could we discourse together and wer I to ask for why
she is making such pother with thatt rubbishy straw
her answer would be surely 'I know not but I MUST'
Then could she take possession of Reason to desist
from a purposeless action in but a few days hence
when her eggs were to hatch she would look for her nest,
and if another springtide found us here again
with memory of her fault she would know a new word
having made conscient passage from the MUST to the OUGHT"
(iv 134-146)

¹ See Croce *Philosophy of the Practical*. His doctrine of economic, as distinct from moral action is of great value. He includes under the former head both the efficient response here discussed and prudential action or action for the sake of pleasure. My own view is that while both these are non moral action for pleasure is on the line of action *sub ratione boni*. As such it will be discussed in the ensuing paper

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2 Autonomy, inner control, as contrasted with external necessitation, is the hall mark of morality. The stage of transition, when conduct assumes what we may call a quasi-moral character, is markedly exemplified in the early history of Rome. The Romans were gifted with a singular capacity for "doing the right thing," i.e. for efficient adjustment to situations of fact, without reflection on ideal aims or moral principles. They cared not to "lift up their eyes unto the hills" to catch the vision of the new Jerusalem, and their sense of moral obligation like their religious worship, had not freed itself from association with external compulsion and external sanctions. Like our own countrymen to-day, the Romans rarely acted on deliberate policy, even of self preservation and self aggrandisement, they were born opportunists, and their empire fell to them, like ripe fruit from the tree, while their minds were absorbed in the issues of the immediate present. So was it also with their most enduring creation, their law, which was built up, stone by stone, with an unconscious logic, in response to particular practical contingencies. Only late in the day, by aid of the Greek mind and especially of Stoicism, did the Roman jurists set themselves to elicit principles from the mass of legal traditions and so to fashion a reasoned system of jurisprudence. For the Roman morality was enmeshed in legalism. "Obligation" is a Latin word, but its significance was juristic rather than ethical. The Stoic term for duties, *προσήκοντα*, was rendered in Latin by *officia*, but *officia* meant rather the tasks incidental to a man's status in the community than duties in the full moral sense. The "must," in short, still dominates the "ought." The directive principle of Roman conduct was that of law and order. As the English and the Americans police a great part of the globe to-day, so the Romans policed ancient civilization, their *officium*, as a race, was to keep order in the Mediterranean world. On this level of conduct, the moral consciousness is awake, in that the claims of law, its generality, and the obligation to obedience are clearly recognized. The "ought" is there as well as the "must", but, being entangled in externality, it is impure, and its full moral significance remains unrealized. The advance to the moral plane was not achieved till the adoption into Roman ethics of the Stoic doctrine of Law of Nature, i.e. of a law that is truly moral, because truly inward, having its source in the rational nature common to mankind.

3 The universality of law is defective, (a) in that legal commands are relative to a particular society at a particular epoch, and (b) in that they are restricted to specified classes of actions. These limitations persist at a higher level of development, after the distinction of moral from legal obligation has been clearly drawn. Men are slow to realize that they have moral duties not only to

their fellow citizens or to those living on the same plane of civilization, but to the lunatic, the criminal, and the savage, to enemies as well as friends—in fact, to all mankind. There are many, again, who believe that their whole duty consists in the observance of a particular moral code, *e.g.* the Decalogue, or in conformity with the ways of thought and conduct approved by the society in which they move. So there arise codes of honour and etiquette, the soldier's or the merchant's, breach of which is censured as a grave moral delinquency, while the man who obeys them is held to have done all that morality requires of him. Many Englishmen to-day regard their nation as thus possessing an ultimate and supreme moral claim on their allegiance, taking the cry "my country, right or wrong," as a counsel of perfection, oblivious of the explicit contradiction. If challenged, they might answer with some reason that humanity is an empty abstraction, and that men will only respond to the call for sacrifice when appealed to in the name of something actual and concrete. It is true, indeed, that, for morality, the ideal and the actual are severed by an unbridged gulf, and that the kingdom of ends remains a visionary dream. But the abstraction lies, not in the remoteness of the ideal, but in morality, which, in commanding perfection, posits an antinomy that it is powerless to resolve. The view of those who would compromise by restricting the ideal within the bounds of finite duties finds its refutation in the fact that it is only by fixing their gaze upon the summit that men can be stirred to the first steps in the arduous labour of the ascent. The complacency which throughout the ages has provoked the contempt of the moral man for the religious, of the Pharisee for the publican, and which paralyses the moral life itself, has its source in the belief that duty can be done, nor can it be remedied save by the recognition that the universality of the moral law precludes accomplishment in any particular acts of human will.

4 We are not questioning the practical value of the effort to state the content of morality *in concreto*, the effort which led Bradley, under the influence of Hegel, to advocate so forcibly the claims of "My station and its duties."¹ This is a concern of Applied Ethics, and it is idle to approach the problem of the application of the moral principle till the nature of that principle has been unfolded in its purity. Bradley himself was the first to recognize that his formula fell short of universality, and that there are many obligations, even in the common life of ordinary persons, which cannot be brought under any rubric. The survey of the efforts men have made to find a concrete formula furnish their own evidence of

¹ *Ethical Studies* ch. v. For the recognition of the inadequacy of this formula pp. 202-206 and ch. vi. on 'Ideal Morality,' and also the concluding chapter of this great work.

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failure. The passage from the "must" to the "ought," from legal to ethical obligation, and, within morality, from the narrower interpretations of moral duty to the wider, serve merely to reveal the inner contradiction which it is the task of a theory of morals to make explicit. If the contradiction were overcome, and the ideal realized, morality would no longer exist. It would be *aufgehoben* in another and a richer mode of experience. Thus, in proclaiming the universality and transcendence of the moral principle, Kant was virtually proclaiming the euthanasia of the moral life.

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We shall see in the next paper how a similar contradiction arises in the case of action directed towards the good, and how, there also, the solution must be sought, if it be sought at all, in religion.

(To be continued)

PHILOSOPHICAL SURVEY

PHILOSOPHY IN ITALY

IN a book on the mysticism of the fourth gospel¹ A. OMODEO continues his extensive history of the beginnings of Christianity which already includes three volumes on Jesus, the Acts of the Apostles, and Paul of Tarsus. It is the first undertaking of its kind to be carried out in Italy, and has the advantage of uniting an accurate and exhaustive philological preparation with expert historical and philosophical penetration. The study of the fourth gospel naturally interests the student of philosophy more closely, on account of the gnostic spirit that pervades it as the first, the principal document of Christian speculation. In common with all modern criticism Omodeo sees in the Johannine Christ a personification entirely distinct from that of the popular preacher of Galilee delineated in the most ancient strata of the synoptic tradition which—unlike the Christ of heterodox gnosticism—is not opposed to it but constitutes its spiritual complement. The fourth gospel carried Jesus beyond the regional, or rather the cantonal, history of the synoptic gospels to the highest point of divine epiphany, in accordance with the divinity in which Jesus was incorporated in the Church. It gave to the entire earthly career of Jesus the full sense of the work of salvation, and of a separation already completed between light and darkness, and adjusted it to the historical development of Christianity, it eliminated the restrictedly prophetic function that in certain strata of the synoptic tradition was attributed to Jesus as forerunner of the kingdom, it eliminated the inconveniences of Paul's method of focussing on the work of Jesus in his death of atonement. Above all, in the completed work, continuing Paul, it referred to the past a great part of Christian salvation which up till then, even in the Pauline speculations on the redemption, gravitated round the hope of the return, of the *parousia* of the Lord. That dispersed the danger of delusion on account of the delay of the advent, and assisted the transformation of the eschatological hope of the Church from Judaized to spiritual Hellenistic forms. The Church became a permanent institution of grace. In this central intuition Omodeo's book coincides with the viewpoint of Loisy, in other respects it gives greater relief to certain distinctive features through which the fourth gospel, although essentially gnostic, represents in gnostic thought "a movement contrary to the one which gnosticism carried with it from its dualistic pre-suppositions. The antithesis to docetism, the insistence on the theme of divine unity in all moments of religious life, the importance assumed by the bond of love (by which the gnosis of Christ must be diffused throughout moral and social life to become the longed for life of eternity) the recognition of certain motives of the Judaic apocalyptic, are so many counterchecks arresting the flood of hazy intuitions of heterodox mysticism." So that in its struggle against Oriental gnosticism the Church has been able to do battle, and to carry off the victory actually with the weapons offered by a strictly gnostic gospel.

¹ A. OMODEO, *La mistica giovannea*, Bari, Laterza, 1930

EUGENIO RIGNANO, known to students of philosophy chiefly as the director of a review called *Scientia*, which for some years has been a useful informant on the international philosophical and scientific movement, died a few months ago, leaving as his philosophical testament a book on ethics in which he has summed up his own ideal of life. For many years he had been giving his attention to a work of considerable proportions on that subject, but almost as if through a presentiment of a premature end he was driven to anticipate its conclusions, and in them the design of the whole work. Formed in the spiritual environment of positivism, his ethical ideal is inspired by the cultural traditions of that scientific movement. In fact he conceives a general formula of 'harmony of life' which draws its presuppositions from biological, psychological, and sociological syntheses, and with which he intends to overcome the oneness of the various ethical systems that had gone before. In the sphere of the individual that harmony is translated into the tendency and the aspiration to render coherent his own conduct. That is to say he tries to act in such a way that his deepest and most tenacious feelings which best represent and constitute his moral personality succeed in inhibiting those of his passions, more fleeting though more vehement, which would lead him to act in a contrary and disharmonious manner. The validity of the principle of harmony is manifested even more strikingly in the relations between individual and individual. Family life, ties of friendship, economical, juridical, and social relations furnish progressive examples of it. The fundamental criterion, according to the author, for classifying feelings and acts and social relations in general as just, moral, or praiseworthy, or else as unjust, immoral, or reprehensible, rests in the fact that they bring respectively harmony or disharmony of life. The highest maxim of this moral principle might be expressed in the formula "Live your life in the greatest harmony with the life of your neighbour," combining the two evangelical precepts of doing or not doing to others what you would or would not wish done to yourself.

In this solution of his the author sees the realization of a function intermediate between the excessive individualism of the ancient philosophers and the suppression of individuality in Christian morality, a just mean between pagan eudemonism and Christian mortification of the flesh, so that his conception, as he says, could be represented as a secularized Christianity, that is to say, a doctrine infused with that feeling of communion of life and love of one's neighbours, proper to primitive Christianity, but tempered by the earthly shining joyousness, suitably spiritualized, of ancient paganism. Here, as usually in moral visions deriving from the natural sciences there are many traces of Fourierism, but in opposition to the utopianism of Fourier, Rignano asserts that the postulate of harmony does not constitute simply the programme of a more or less remote future, but the fundamental direction in which, in spite of continual oscillations, social progress is always moving in its ascent towards an ever higher moral level. The historical interest of Rignano's book lies in the expression of a tendency which is making its way even in Italy (although under greater difficulties there than elsewhere) towards a wider solidarity of mankind above the competitiveness of nations.

In a book on the soul Professor G. TAROZZI examines the problem of individual immortality. Like all researches of the kind, this one by Tarozzi concludes with the assumption of a great *peut être*. The interest of the

¹ E. Rignano, *Il fine dell'uomo*, Bologna, Zanichelli, 1928.

² G. Tarozzi, *L'esistenza e l'anima*, Bari, Laterza, 1930.

thesis derives principally from the opposition with which it is conceived against the idealism dominant in Italy to day, which tends to resolve the individual soul in the universal spirit. According to Tarozzi, "the idea of a universal spirit or subject rises in systematic philosophy through the need to explain the ethic universal, and as a symbol rather than a resolution of epistemological difficulties but it cannot be accepted by a philosophy of pure research founded on psychological introspection." This reveals to us a continuous dynamic unity of the ego, quite distinct from any other individuality. Therefore the problem of immortality, according to Tarozzi, attaches itself to this sentiment of the ego rather than to the logical formulae of idealism. There is certainly no possible way of demonstrating the existence of a future life yet this does not exclude the possibility of imagining a future life which might be realized in conditions different from those which we now experience. This possibility is rendered more plausible for Tarozzi by the criticism of scientific determinism which shows that the system of natural necessity does not exhaust the whole of reality, and only constitutes a simple point of view of things, leaving the possibility of different points of view, that is, of different conditions and relations in life.

Foreign readers who experience almost unsurmountable difficulties in a direct and complete reading of the works of G. B. Vico, the Italian philosopher may find the recent anthology of Vico's writings, compiled by S. CARAMELLA¹ of considerable benefit. Here are reproduced the most significant points of the philosopher's works, from the *Autobiography*, the *De ratione studiorum*, the historical and juridical works, and finally the *Scienza Nuova* and copious erudite notes by Caramella facilitate the understanding of the text, and the perception of the bonds between one point and another. The compiler has prefixed to his anthology an exceedingly estimable introduction where he gives a bird's eye view of Vico's philosophy, and a solution of the differences to which the most recent interpretations of that philosophy have given rise. The most characteristic of these differences is manifested on account of Vico's Catholic convictions, because Croce rigorously estimating the speculative positions of the *Scienza Nuova*, has been drawn to consider Vico's Catholicism as a superstitious "residuum" which the philosopher had neither the strength nor the courage to eliminate, while on the other hand recent Catholic writers have held it possible to document the persistence and firmness of those religious convictions (though not their agreement with the fundamental intuitions of the *Scienza Nuova*). Thus we get two opposing representations of Vico's personality, that of an immanentist philosopher and that of a fervent Catholic. Concerning this argument Caramella observes that both aspects are actually found in Vico and that there is certainly a conflict "between a religious tradition left intact in its formulae, and a thought that was liberally progressive." But he adds that the opposition appears much less when it is observed that Vico's Catholicism is not Thomist, but Augustinian and voluntarist. Augustinian Christianity gave him the vision of the City of God as the world of history impelled by Providence, it gave him the Christian concept of the creative spirit: it gave him finally the possibility of a synthesis between Platonism, Christianity, and modernity. So that the Catholic Vico could still feel undisturbed when from a conscience formed by dogmatism and Augustinianism he proceeded to a philosophical conscience whose intuitions, while in their development the firmness of the dogma was damaged and

¹ *Antologia vichiana (La vita e il pensiero di G. B. Vico esposti e commentati attraverso le sue opere)*, per S. Caramella, Messina, Principato, 1930.

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destroyed yet did not in their own primordial obscurity seem to him to be directly adverse

In an interesting volume of the collection of *Scrittori d'Italia* of Laterza CROCE and CARAMIELLA have collected some of the most interesting writings of politicians and moralists of the seventeenth century.¹ This collection was made desirable in consequence of the interesting revelations of Croce and Meinecke concerning the elaboration of the concepts of the *Theory of State* during the seventeenth century. Among these writers of treatises—whose works hitherto have been bibliographic rarities—Zuccolo is particularly worthy of being recorded and Croce has lately said of him that he deserves to be considered as the most profound philosopher of the politics of his time and as the forerunner of the theories which affirm the autonomy of politics. Naturally Zuccolo was preceded on this path by Machiavelli and the Machiavellists who had already maintained the independence of politics from morality. For them however politics were too closely bound to the individuality of the prince and created in one and the same person differences too sharp between the valuation of private and public acts while the peculiarity of the speculations on the theory of State rests in this that in some way they detach the personality of the State from that of the prince and force themselves to redeem the actions dictated by superior and permanent exigencies from the imputation of immorality which would belong to them if they were inspired by interests purely egoistic. In this class of ideas we find Accetto's short treatise on honest dissimulation which shows how dissimulation which betrays moral unfitness in the individual can be a necessity in the head of the State (and hence be called honest) who is required to conceal anything which becoming public property might damage the permanent interests of a country. The editors cite Grotius among the predecessors of this doctrine but it had already been clearly formulated by Althusius and the fact that a Calvinist like Althusius felt no moral repugnance in accepting it shows how strongly he felt the distinction between the point of view of the individual and that of the State.

These opportune summaries of the seventeenth century serve to correct the opinion generally prevalent in histories of culture that after the flowering of the Renaissance Italy straightway disappeared at least for two centuries from the number of countries who were leaders of culture and was reduced to the level of echoing old exhausted motives. It is certainly indisputable that the production of Italy in the seventeenth and eighteenth centuries was not in any way comparable with the productions say of England and France but it is also true that her mental activity did not really experience an actual stoppage and that by two paths at least it followed the elaboration of problems which had already constituted the worth of its Renaissance that is to say on the one hand through the development of the school of Galileo on the other through its reflections on the problems of politics and their relations with morality.

GUIDO DE RUGGIERO

¹ *Politica e moralità del 600* (Sirada—Zuccolo—Settala—Accetto—Brignole Sale—Malesani) cura di B. Croce e S. Caramella. Bari: Laterza, 1930.

(Translated from the Italian by CONSTANCE ALLEN)

PHILOSOPHY IN RUSSIA

In the last number of the *Sovremennaya Zapiski* a Russian periodical published in Paris there is a very interesting article by P. Prokofyev called the *Crisis of Philosophy in Soviet Russia*. The word crisis is perhaps a little too strong but there is no doubt that some vague stirrings of thought have disturbed the complacency of the red philosophers and that materialism in its crudest form no longer satisfies even those who have been brought up to believe it the only true doctrine. Mr. Prokofyev's article is based upon shorthand reports of the Conference held at the Harkov Institute of Marxism-Leninism in 1929 and of the all-Russian Conference of Marxist-Leninist scientific institutions held in April of the same year in Moscow. The discussions at the Harkov Conference took the form of a bitter attack against the director of the Institute Semkovsky but in the mass of vituperation and references to the man's political unsoundness one can find unmistakable indications of mental unrest among the former pupils of the Institute. They accuse Semkovsky of having given them no knowledge of the categories of dialectic logic of saying that Hegel is not worth studying because Marxism has absorbed everything that is of value in Hegel while as a matter of fact this is untrue and so on and one of Semkovsky's pupils in philosophy complains that the four years of work at the Institute made him not a scholar but an indifferent sort of propagandist.

This new interest in Hegel is due curiously enough to two recent publications of Marxist classics—Engel's *Dialectics of Nature* (published in 1925) and Lenin's *Notes on Hegel's Logic* (published in 1928) both of which give a very fair account of Hegel's general position. Lenin's *Notes* are said to be a tremendous step in advance by comparison with his crude and naive book on *Empirio-Criticism*: he seems to have grasped Hegel's fundamental conception of the unity of opposites though he did not think out its implications. So genuine was Lenin's enthusiasm for Hegel that he actually ordered the release from prison of a white philosopher I. A. Ilvin whose brilliant book on the Hegelian system Lenin read at the time and very much admired. This did not save Ilvin from being arrested once more and eventually exiled from Russia—but that's another matter! Lenin's *Notes* proved to be a powerful stimulus to the study of Hegel and as a result of this, men trained in the traditions of red philosophy are arriving at conclusions which rightly seem alarming to their teachers. Deborin one of the accredited Soviet philosophers complained at the Conference that the very foundations of Marxism are regarded by a number of comrades as doubtful and problematic and he had to admit that this deplorable fact could not be entirely attributed to the influence of Losev or of the bourgeois West.

The mechanistic conception of reality and the crude materialism found in the works of Buharin, Plehanov and other pillars of orthodox Marxism is being sharply criticized by the new generation of the red philosophers. One has to write the word in inverted commas because the extraordinary crudeness of their writings shows that their knowledge of philosophy is extremely elementary but however poor their philosophical equipment may be the significant thing is that to some extent at least they have begun to think for themselves and to attack the very doctrine they had been taught to regard as gospel truth. The glimpse of Hegel's philosophy that they have had through Lenin and Engels has led them to suspect that there may be other kinds of reality than that of sensuous objects in space and time.

It is apparently the conception of the unity of opposites that is threatening

to destroy the solid edifice of Marxian materialism, for it can only mean a super-temporal and super-spatial, *i.e.* an *ideal* unity for which there is no room in a world conceived as merely the sum-total of moving particles in space. Following the Hegelian line of thought, many of the younger men have come to maintain the reality of universals—which rightly seems a terrible heresy to the orthodox Marxists—and in some cases their work appears to be curiously free from the trammels of the official communistic philosophy. Prokofyev mentions, for instance, an interesting study by Voloshinov (published in Leningrad in 1929), *Marxism and the Philosophy of Language*—an inquiry into the ontological problem of language breathing the same spirit as the work of Losev or of Father S. Bulgakov, and Marxist only in some of the details of terminology.

It is, of course impossible to say whether this awakening of independent thought among the new generation will lead to a revival of philosophy in Russia, or be stamped out by the ruling class, whose very existence is bound up with the Marxian creed—but at any rate it is so much to the good that the Soviet philosophers have come to see the insufficiency of their knowledge of the subject, and to feel that the materialist position is not so impregnable as they had thought. Some of them are evidently rather disturbed by the threat to their former intellectual security, and one of the speakers at the Moscow Conference has probably voiced the feelings of many when he complained that 'one used to feel so much more comfortable in the old days—one called oneself a dialectical materialist, and that was the end of it—but now it is nothing like enough!'

The Russian philosophical writers abroad find it increasingly difficult to have their work published, most of the exiles are too poor to buy books, and there is no access to the reading public in Russia, but nevertheless several works of considerable interest have appeared recently. Karsavin's book on *Personality*, published by the University of Kovno in 1929, contains a further elaboration of the theories developed by him in the *Philosophy of History and First Principles*. Karsavin's system is based upon a conception of the Absolute as a pan unity in which there is a 'coincidence of opposites'—a conception somewhat similar to that of Nicolaus of Cusa. Karsavin defines a person as a "concretely spiritual, bodily-spiritual being determined, unique, and many sided." Its unity lies in its spirituality and its multiplicity in its corporeality, but since personal unity is a unity in multiplicity, a personality is 'wholly spiritual and wholly corporeal.' In so far as it is corporeal and multiple, it is 'given' and determined with necessity, but in so far as it is spiritual it overcomes its necessary character, and is self-determining and free. The relativity both of its freedom and of its necessarily determined nature shows that personality contains a principle which transcends both freedom and necessity, and is as such undefinable. By a rather bewildering line of argument Karsavin deduces from this the conclusion that the only personality in the true sense is God, who is unity in Trinity. A creature is, strictly speaking, not a person but a mere indefinite substratum created by God out of nothing, it becomes a person only in so far as it assimilates the divine 'content.' And since creatures receive their character through their participation in the Logos, the whole of the created world may be described as a 'theophany.' Evil and imperfection mean merely an absence of good in the creatures, their incomplete assimilation of the divine essence. When the imperfection is very great, the creatures have only an embryonic personality (animals), or even a merely potential one (inanimate objects). Perfection means complete deification of creatures, their unity with God, and this is only possible through the incarnation of the Logos. The union of the Creator and the

creature achieved through grace does not imply any pantheistic identification of God and the world there is a profound and essential difference between them Karsavin offers an interesting interpretation of the nature of corporeality and uses it to explain certain problems of knowledge

Those who are in sympathy with the line of thought developed by Karsavin will find many valuable and illuminating suggestions in his book but it is not sufficiently *reasoned* to appeal to readers who do not already hold views similar to his own Whether the conclusions that Karsavin seeks to establish can be proved by reasoning at all is another matter but if the method of abstract logical thought be once adopted it must conform to certain standards of cogency and clearness

Professor S. Frank's *Spiritual Foundations of Society* published by the Y M C A Press in Paris in 1930 is an important contribution to social philosophy and provides very interesting reading Social philosophy is for Frank an attempt to determine the essential nature of social life in its entirety, it is distinct from sociology which regards man from a merely naturalistic point of view from the philosophy of Right which is concerned with the *ought* regardless of the *is* and from the philosophy of history which is logically dependent upon social philosophy It starts with the admission that there are certain normative laws of social life and seeks to understand them These laws eternal and immutable are rooted in human nature and the healthy development of society depends upon observing them but they can and often are violated by man's free will—with disastrous consequences Society is not a mere aggregate of separate individuals but a unity in multiplicity an objectively real spiritual whole It finds expression in the inner bond between the individual minds composing it but is not itself a subject of consciousness Society as a collective unity is not *I* but *we* its unity exists in so far as it is present and active as the consciousness of unity as the idea of *we* in its individual members One of the best chapters in the book is '*I and we*' in which the author shows that the two are correlative and that were it not so communication between individuals would be impossible The fact that both the unity and the multiplicity are ontologically real constitutes the central problem of social life for the harmony between the two is not given but has to be achieved in the historical life of society There is a constant struggle between the principle of unity and the disruptive self assertion of individuals and the degree of harmony attained between the *I* and the *we* is the real test of the relative goodness or badness of any given social system

Our consciousness of the principle of social unity is essentially the same as the religious consciousness as the intuitive feeling that is of the bond between the soul and the Absolute The feeling of human solidarity of belonging to a whole which is not external to the individual but completes and interpenetrates him is essentially a mystical feeling of having one's roots in the super personal depths of reality This whole is super temporal and includes both the past and the future generations and that is why social life must always combine an element of tradition and conservatism with a striving to realize new values Social institutions are embodiments of ideal forms and have an objective reality which however becomes null and void when people cease to believe in them and to obey them From the fact that the life both of the individual and of society is rooted in the Absolute or God Frank deduces the consequence that man's function is to serve God realizing in every sphere of life the law of righteousness This is man's essential duty and his only true right is the right to be free to fulfil this duty It is only in and through the idea of service that the conflicting claims of individuals can be reconciled

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Practical conclusions drawn by Frank with regard to social organizations etc., are so fair and reasonable that no one could quarrel with them but there is something in the psychological atmosphere of the book if one may say so that tempts one to dispute them out of sheer contrariness. The author lays so much stress on service duty obedience resignation that there seems to be no room left for the conception of life as a joyous and spontaneous realization of values.

A number of articles by distinguished Russian thinkers appeared in the *Festschrift Th. Masaryk zum 80. Geburtstag* (Bonn 1930)—Father S. Bulgakov, Lossky, Lapshin, Hessen, Yakovenko, Teluzhevsky. Perhaps the most interesting of them is S. Bulgakov's *Was ist das Wort*—an introduction to his big work on the philosophy of language which he has not yet been able to publish. He contends that the sound is the *σωμα* of a word as the Stoics used to say: it is matter idealized by form, meaning or idea. The word as a meaning may have various embodiments—sound, gesture, writing—but just as Beethoven's symphonies are written for the orchestra, so words as meanings find their chief embodiment in the sounds of the human voice. The connection between the idea and its embodiment is not that of an external association. Bulgakov rejects all psychological theories that reduce meaning to a process in the human mind and interpret words as external signs for communicating the mental process to other people. He maintains that when words first arise as elements of reality, there takes place a twofold process: the idea or meaning is so to speak liberated out of its cosmic context and creates for itself a new body—the word—in the microcosm of the human personality. Cosmos itself speaks through man in words which are real symbols, active hieroglyphics of things; thus the true soul of the word, sound, the sun, is that heavenly body itself. Plurality of languages does not preclude the unity of the inner word: the Babel confusion of tongues is like the splitting of a white ray into a number of spectral colours but it does not affect the unity of words as meanings which is proved by the possibility of translating from one language into another.

Several more or less philosophical articles have been written recently *à propos* of Dostoevsky. The Russian passion for generalizing finds an interesting expression in the authors' insistence on the metaphysical significance of Dostoevsky's novels. They do not of course wish to imply that Dostoevsky intended to have his work interpreted in this fashion but they use him as a peg on which to hang their own ideas. Thus Teluzhevsky in his article on Dostoevsky's story *The Double* expounds the philosophical implications of the idea of a double. Double personality, he says, is the result of the conscious subject's inner deterioration of his failure, namely, to carry out his concrete individual vocation; hence it becomes possible to replace him by other subjects and personality loses its uniqueness. S. Hessen in his *Tragedy of the Good in Dostoevsky's Brothers Karamazov* (published in German in the *Russische Gedächtnis* as well as in Russian) reads into the novel a profound ethical theory. The theory is excellent and the novel is made to bear it out in a most ingenious way but there is something slightly offensive to one's literary taste in making an artistic masterpiece subservient to the demonstration of a philosophical theory.

NATALIE DUDDINGTON

object of philosophy is the logical classification of thought. Philosophy is not a theory but an activity. The result of philosophy is not a number of philosophical propositions but to make propositions clear. Professor Schlick prophesies that the time will come when Metaphysical tendencies will be entirely abandoned simply because there is no such thing as metaphysics the apparent descriptions of it being just nonsensical phrases and that the result of philosophizing will be that no more books will be written about philosophy but that *all* books will be written in a philosophical manner.

Evidently Professor Schlick foresees the time when every man of science who is not absorbed by the technique of discovery will be his own epistemologist. Men of science will fall into two classes: those who discover and those who appraise—the latter will do their own philosophizing. They alone will be competent to criticize the categories of their special science. And they will refuse to be harassed or intimidated by the authoritative interventions of a superior science called philosophy. At the Oxford Congress the sections dealing with the philosophical problems arising out of modern Physics and Biology excited the greatest interest but in confirmation of Professor Schlick's view we may note the important place taken in recent thought by philosopher scientists such as Russell in Mathematics, Lloyd Morgan in Biology and Eddington in Physics.

Professor Heimsoeth appears to approach nearer to Whitehead's view when he says in his paper that the fundamentals of metaphysics must be sought in¹ a differentiated ontology based on science and empirical experience but he seems again to recede from Whitehead's view when he calls upon metaphysics to² repress its habitual impulse to constructive unity³ metaphysics should in the first instance be⁴ descriptive and analytical rather than constructive and synthetic.

Professor Heimsoeth concludes his historical survey of the changes in the conception of metaphysics with these words: The conviction that metaphysics as the supreme and fundamental science must be a science of the pure *a priori* and must be distinguished by apodeictic certainty survives even in Kant and the German Idealists and to-day this view is obsolete. This traditional view of the nature of metaphysics partly accounts for the extremely hostile attitude to metaphysics taken up by the followers of the Swiss theologian Karl Barth. In the discussion on 'The Relations Between Metaphysics and Religion' with Dr Webb in the chair several speakers referred to the new Theology of Crisis. Religious men feel that metaphysicians claim to have more knowledge about the Creator than is befitting the creature. There is an agnostic element in religion which metaphysicians do not sufficiently respect. Between the finite human being and the inscrutable mysterious and holy God there is an infinite gulf over which metaphysicians leap too confidently. Religious men cannot feel at ease when the Numinous is brought within the well lit thoroughfare of human rationality.

If the men of science and the men of religion either discard philosophy or do their own philosophizing what special function is left to the pure philosopher? Perhaps Professor Dewey is right when he suggests in his last two books that philosophy is primarily a criticism of values and that the philosopher is a critic of civilization. The question as to what philosophy is does not seem to have been settled at Oxford. Perhaps we shall discover the answer when the next Congress meets at Prague in 1934.

¹ A free translation of the German.

NEW BOOKS

Contemporary American Philosophy Two vols (New York: The Macmillan Co. London: George Allen and Unwin Ltd. 1930 Pp. Vol. I, 450, Vol. II, 447 16s net each)

Present philosophy observes Boodin in his own contribution to this Symposium, is a whitened sepulchre calcimined with a coating of science and mathematics, but within are the dead bones of the past and the ghosts walk abroad. The volumes themselves, however quite apart from the previous output of American writers are amply sufficient to reduce his opinion to the verge of absurdity. Their comprehensiveness enables us to decide a little more definitely whether there has yet arisen a native United States philosophy. My personal impression is that no single and unmistakably specific tendency can be discerned. The next new ism is undeniably incubating. But this survey offers extremely interesting and acute variations upon themes already familiar. The general aim has been to secure an intellectual autobiography, and Perry believes that there has resulted a confluence of currents which have hitherto run in separate channels so that the doctrinal cleavages so well marked at the opening of the century have now lost much of their significance.

The first volume is prefaced by an historical retrospect from the veteran G. H. Palmer, carrying us back almost a century in autobiography and about three centuries in ancestry—a sketch paralleled by the late Professor Wenley's account of past conditions in the Scottish universities. The second is introduced by Dewey's summary of his advance from Absolutism to Experimentalism. To the prevailing types of Realism Loewenberg adds "Problematic Realism," so called because 'judgments of the real are perennially precarious,' and imply therefore a new sort of metaphysics—the metaphysics of scepticism. Lovejoy, again, emphasizes the indestructible time factor in all experience so as to attain 'A Temporalistic Realism,' wherein temporality can by no dialectical hocus pocus be transubstantiated into, or embraced within, the eternal. Both writers would agree I presume that the future of their systems is highly problematic and that only time can settle their differences. Similarly, McGilvary advances 'A Tentative Realistic Metaphysics' while Pratt, Perry, and Sellars present succinct summaries of their individual standpoints. The last named approximates closely to what has been reverently called Russell's 'under the hat philosophy.' The brain, via the organ setting the muscle and gland is the mind, while consciousness becomes the "qualitative web of events intrinsic to the operations of the brain-mind. To this position Montague appears to approach, since all his work has been oriented with regard to the psycho-physical problem" under the pressure of an 'animistic complex,' making him "an animistic materialist." His account of the sudden and surprising source of his speculations irresistibly suggested, to my mind, the entrance of Alice into Wonderland though this classic adventure can scarcely be compared to the conclusion 'that the potentiality of external motion is the actuality of internal experience.' Equally remarkable is the stimulus which first settled the bent of Irving Lewis's mentality—the old lady whom he fortunately met when he was fifteen, surely a rare type which with the advent of the new woman, must now be quite extinct. Boodin also maintains an

"empirical realism" in which we 'take account of reality as it is in our primary relations with nature'. But his statement (p. 155) that "according to the theory of relativity there are no absolute constants" seems to conflict directly with the assertion of Eddington and other physicists that one of the main principles of the theory is the discovery of the undeniably absolute factors of the physical world. And even the keenest devotion to current science scarcely justifies the accusation, which is intended, I suppose, to be taken seriously, that 'the chief end of academic philosophy is to furnish a living for professors of philosophy'.

Thus Realism is still well represented, finding its common basis, perhaps, in G. P. Adams's "consideration that a specific perspective may not be condemned to unreality because it is a perspective, hence relational and complex. This notably intensifies the contrast as regards Pragmatism, particularly in view of the irrepressibility of its British advocates. According to Boodin, however, "Pragmatism is now dead. No one seems to want to own it now", although since he immediately adds, "Long live pragmatism," its decease is perhaps of the type so judiciously disowned by Mark Twain. It has unquestionably lost its past prominence so far as the present writers are concerned, while Lovejoy asserts much the same with reference to idealism. 'most of us have found the idealistic creed untenable'. Unfortunately, idealism is an expanding suitcase term, applicable in this instance almost exclusively (as Urban points out) to variants of Berkeleyanism. As Everett expresses it 'objects do not owe their ontological status to the experience of finite minds', although Perry contrasts idealists, who "have staked all on the monumental perfection of the whole, with James and Whitehead, who "pay as they go". This, however, seems to ignore altogether Whitehead's emphasis on wholeness in *Process and Reality*, as well as the remarkably close affinity of his central standpoint to that of Hegel. Yet in spite of all this Perry observes that to Anglo-American idealism every attempt to define terms or to organize research must necessarily be abhorrent', comment, I hope, is superfluous. In opposition to this painfully superficial judgment, Urban voices a weighty and finely expressed protest in defence of *philosophia perennis*, which he has more adequately presented in his recent *Intelligible World*. He even calls himself "a fundamentalist and traditionalist in philosophy," basing his severe criticisms of current 'modernism' on the principle of value. In this he agrees with Ducasse, who likewise maintains that "the subject matter which philosophy alone studies, and which seems its only proper subject matter, is values", while Adams distinguishes between the 'tender minded' and the 'tough minded' by their emphasis upon values and 'hard facts' respectively, further, philosophy is not science because it interests itself in meanings and values. For Parker and Adams, again, "value and existence are always correlative, meanings and values are integral to existence and to reality". And when we ask the crucial question, Exactly what is value?, we must turn to Perry for a somewhat detailed delineation, and to Alexander for the happy suggestion that 'values are the unmetred realities of things, out of time, out of space'. But against this consensus we find Everett's blunt statement that 'between positive value and reality we cannot establish an equation', one of many contending viewpoints which will delight, or bewilder, the reader according to his tender or tough, mentality.

As with pragmatism, so with behaviourism at least in its more extreme forms even Strong's epistemology "is a combination of sensationalism with behaviourism. Behaviourism without feeling seems ridiculous (does anybody really hold it?)" This holds equally of Logic. On the one hand Cohen outlines 'The Faith of a Logician,' with its apparently alogical conclusion that 'the

world may also be said to contain an irrational element in the sense that all form is the form of something which cannot be reduced to form alone "The irrational seems curiously in favour at the moment, both Whitehead and Meyerson (in his *Identity and Reality*) leave reason confronting it This is suspiciously like the brave knight leading his lady to the dragon's den, but perhaps "irrational" is only an alias of the super rational, and the dragon an eminently reasonable creature after all Contrasted with this, however, de Laguna proclaims a 'tendency in the direction of a more and more radical scepticism Logical speculation is a straining after the self evident, and in the measure in which it succeeds it vanishes Santayana, for his part, appeals to imagination, does not modern philosophy teach that our idea of the so-called real world is also a work of imagination?' and thus thought becomes "a controlled and consistent madness It would be just as true to describe sunlight as illumined darkness, a feeble paradox gaining all its force from its direct but unjustified contradiction devoid of essential subtlety Still, many readers will welcome the author's account of the conditions which generated *The Life of Reason*

An additional remarkable feature is the paucity of references to recent scientific developments, especially as compared with the prominence assigned to religion by so many of the contributors Is this due to the persistence of old Puritan influences, still powerful although perhaps not vocal? in spite of Tufts' conviction that 'the sanctions of our inherited morality have gone Principles and standards which had stood for nearly two thousand years are questioned' Many of the individual opinions are nevertheless notably positive Thus Palmer believes that 'in religion all philosophy culminates, or rather from it all philosophy flows' Similarly with Singer "philosophy either is, or else involves, the search for a religion," while Urban finds himself "unable to distinguish ultimately between philosophy and religion," just as Alexander admits his rediscovery of 'a meaning richly symbolic after the estrangement of a lifetime' These characteristic assertions have many parallels, and when taken in conjunction with Whitehead's recent treatment of religion, they raise extremely interesting suggestions as to what course future speculation will adopt In view of all this it is another curious contrast that the principle of personality finds few adherents As "an Absolutistic Personalist" Miss Calkins maintains 'that mental realities are ultimately personal, every mental existent is either a self or a part, phase, aspect, or process of a self', still further, "the universe is through and through mental in character, all that is real is ultimately mental, and accordingly personal, in nature" Finally, then, "the universe literally is one all including self of which all the lesser selves are genuine and identical parts, or members" Similarly for Warner Fite "the person marks the type and direction of what is real The only conceivable thing in itself is a person', while A K Rogers finds 'logic and motivation both pointing toward the notion of personality as the most likely key to an understanding of reality' With much of this I should fully agree, with the proviso that clearer recognition ought to be accorded to the reality of non mental elements, together with the indispensable delimitation of personality from its environment This distinction is essential to the equally necessary dominance of the self over its environment—a dominance which at its highest level becomes an absolute supremacy that is at the same time absolute freedom It is just this inherent independence of the self that seems gravely imperilled by regarding "the lesser selves" as "genuine and identical parts" of the all inclusive universe

In concluding these purely impressionist comments I should like to draw attention to the unusually high quality of H. B. Alexander's literary style

The affinity between art and philosophy is sufficiently familiar, but it is seldom that a living writer achieves so fine a fusion of pure thought with its artistic expression as in this instance. Taking the volumes in their entirety, together with the recent publications of individuals, it seems rather difficult to endorse Palmer's judgment that "our young philosophers lack balance. Fifty years ago they lacked courage." Perhaps this is merely the perennial reflection of the older generation, for as Hocking ends by saying, "a finished set of reflections would misrepresent an unfinished philosophy."

J. E. TURNER

The Austrian Philosophy of Values By HOWARD O. EATON, Ph.D. (Norman, U.S.A. University of Oklahoma Press 1930 Pp. viii + 380 Price 5 dollars)

This seems to me to be an admirable book. Indeed, when the author's modest (I should say far too modest) claims for it are kept in mind—"the present work," he says, "is an attempt not at appraisal but at understanding"—I think it is safe to say that a better attempt of the kind could scarcely be expected, and that Mr. Eaton's work makes any further exposition of the Austrian value theory for English readers quite unnecessary. The only serious danger is that such readers will content themselves with Mr. Eaton's exposition and neglect the originals. For Mr. Eaton has mastered a very intricate and historically entangled literature so thoroughly, and moves with such competent care and justified assurance that it is difficult to avoid the dangerous state of complacency implied in being sure that he "hasn't missed much," and that he has chosen the right passages for his exposition with such unflinching skill that it is unnecessary for any reasonable person to search any further.

Since something more than eulogy is usually expected of a reviewer (it might be rather a delicate matter to explain precisely why), I might remark with some diffidence that when Mr. Eaton comes, as I hope he will shortly come, to develop a theory for himself on the basis of this patient and able inquiry, it seems possible, at least, that he will abate something of his present reverence for these authors, or at any rate may alter the type of his reverence. I am saying this not because I consider Mr. Eaton uniformly or blindly uncritical. That would not be true at all. What I mean, rather, is that the sparing criticisms he does reluctantly allow himself are so very pertinent, and frequently so very devastating, that it is hard to suppose he can refrain for all time from making other and perhaps bigger ones.

Let me give two illustrations.

(1) At the close of Chapter VIII (which chapter is represented as the termination of Mr. Eaton's study of the *analysis* of values) Mr. Eaton suggests, as his tentative conclusion, that "it is not surprising that Meinong, who was primarily interested in abstract analysis in the theory of knowledge, in axiology, should have found a definition which fits most closely the intrinsic values, whereas Ehrenfels, who began his investigation with a study of the will and who continued with the study of the psychology of motivation, should have thought of values essentially from their extrinsic aspect" (p. 203). This suggestion, however, is immediately robbed of all real importance by Mr. Eaton's remark that, both for Meinong and Ehrenfels, "extrinsic and intrinsic values are continually shifting one into the other" in such a way that "there is no such classification possible" (p. 204). That, however, is not the most important matter. According to Mr. Eaton's exposition of Meinong in this part of his theory (as I think, according to Mr. Eaton's correct exposition), "intrinsic value" is impossible to distinguish from "genuine satisfaction." As

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Mr Eaton says (p 202) "When one possesses an intrinsic value he confines his activity to such behaviour as will tend to heighten the stimuli which he receives from it. All of our activity is primarily directed to increasing the vividness and reinforcing the certainty of the judgment that we do possess what we want." If so, quite plainly, the maxim *de gustibus* holds good, with the sole proviso that the satisfaction be genuine. Yet in the very next chapter, and without calling attention to the manifest hiatus between the contentions of these two chapters, Mr Eaton, quite comfortable in his mind, because he can give chapter and verse from Meinong proceeds to give an account of Meinong's attempted proof of the falsity and complete insufficiency of *de gustibus* and of all similar maxims on the ground that values, properly speaking, are not simple likings but, on the contrary, 'dignitatives' or 'desideratives' which are analogous to although not identical with, logical or intellectual claimants to truth and objectivity (Mr Eaton's ninth chapter is very important and his careful account of truth and falsity in values, together with his concluding suggestion that value is 'of higher order,' and like the statement ' λ is similar to γ ' than the statement ' λ is blue,' is an excellent example of the best that can be gleaned from Meinong. My complaint is that the difference between the Meinong of Chapter VIII and the Meinong of Chapter IX is not sufficiently emphasized.)

(2) In Chapter X Mr Eaton gives a careful account of Meinong's discussion of Egoism and Altruism, and speaks of it in the highest terms "Meinong," he says (p 256), "is to be regarded as a pathfinder in a new field of human speculation." In fact, however, Meinong's view rests on the absurdity that, from the moral standpoint, what Butler calls "a due regard for our own interest or happiness" is not merely non ethical, but is such that (as marginal cases show) "as between two acts both of which will lead to the same degree of good for another, that act is morally more valuable which involves a greater sacrifice on my part." To be sure, Mr Eaton might (and by implication does) deny that this absurdity is the foolishness that it is, but in that case the odd thing is that he does not notice the manifest contradiction that is to be found in Meinong's own theory at this point. As is explained in Chapter XII, Meinong's account of the objectivity of values is expressed in terms of the (fictitious) "impartial spectator", and Meinong frankly admits that such a "spectator" would see that the Ego as well as the Alter had, in fairness, to be treated equally. What he goes on to say is (see p 208) that no one is deficient in egotism, but that altruism is so rare that it acquires a very high scarcity value. Psychologically, as it happens, both these statements are probably false, or at least exaggerated. Many persons are deficient in self assertion, and Hume might have taught his great admirer (Meinong) that although most men care for themselves more than for any other single person, few are so constituted as to care more for themselves than for *all* their friends. But, however that may be, it seems clear that on Meinong's view ethics would be unjust in its fundamental principles, and would be a sort of conspiracy to give a bounty to the scarcity values of altruism.

It must be confessed that the permanent importance of contemporary value-theory is highly, or at least somewhat, dubious. For all we can tell at present, "value" may be of incalculable importance—"an arterial road to reality" as someone has said, or perhaps a thread of Theseus for the social and for the human sciences. On the other hand, it may be a name for something important, although not precisely for the something that value theorists at present suspect it to be. And it may even be a name for many things which cannot be united in a single intelligible conception.

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Whatever may come to be the future opinion of philosophers, however, it seems clear, at the worst, that some failures are of the kind that is better than a host of successes, and even if the Austrian and other similar theories of value come eventually to be regarded as failures, it is unlikely, I think, that the hard thinking and the great acumen of Brentano, Meinong, and von Ehrenfels on this subject will ever be regarded as essentially futile and aimless. For this reason Mr Eaton's enterprise should be (as doubtless it will be) welcomed, and his contribution duly pondered. Brentano's empiricism may have been less original and more questionable than his contemporaries thought, but it was at least the transparently honest effort of a mind of a very high order, and it deserved the distinguished intellectual progeny that it begat. Meinong may, like Kant, have tended to lose himself in logical schedules, and in the multiplication of analogical tables, but there could hardly be a better schoolmaster for teaching us the importance, and also the limitations, of resolute empiricism. Mr von Ehrenfels, whose seventieth birthday is commemorated in the publication of this book, possesses a mind and a style of a different cast from either Brentano's or Meinong's. There is more gusto and historicity in his empiricism, and he may sometimes be a little romantic in his canons of evidence. But so many have enjoyed him so thoroughly and so much to their profit that it is ungracious to speak in this vein—ungracious and more than a little unjust.

JOHN LAIRD

Ethical Principles in Theory and Practice By HANS DRIESCH, Ph.D. Translated by W. H. JOHNSTON, B.A. (London: George Allen & Unwin, Ltd. 1930. Pp. 248. Price 7s. 6d.)

Professor Driesch considers that this book should make a special appeal to teachers and to statesmen. There is, indeed, much in the long section on the Doctrine of Duties which is very relevant to education and politics, and also admirable in sentiment. Yet it is doubtful whether the book will be acceptable to many who are not already followers of Professor Driesch, for, though the author says that it will prove intelligible to those who are unacquainted with his other works, it is made to rest on assumptions which, within these pages, he neither defines nor substantiates. Yet he himself insists that "the philosopher must make his postulates with absolute rigour," and concludes with one 'supreme commandment,' namely, "resolve to accept Reason" (pp. 245-6).

Professor Driesch begins by asking, "What exactly must be the nature of actions in order that they shall deserve the predicate of 'good', it being supposed that the meaning of this term is clear?" (p. 17). The mere meaning of 'good' he says, is intuited "in the same manner in which I intuit the meaning of 'straight'" (p. 19). But *what*, he asks, is it that is good, and *what* ought to be? He tells us that he has modified a former answer that he gave to this question, namely that good "relates somehow to some supra personal totality which is in process of becoming" (p. 20), for he has now come to doubt whether human history is 'a true evolution'. But the modification is perhaps not very serious from the ethical point of view, since he still insists that 'what ought to be' refers to the promotion of man "towards a state which earthly man cannot understand" (p. 21). To this mysterious end "all earthly actions and all earthly states, even those which are socially the most perfect, are related merely as means" (p. 21). But are they *merely* means? The author asserts without argument that "there can be no ethics, and consequently there can be no particular moral doctrine, unless we assume some future supra personal state, which has been approved, and is treated as our goal,

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whether it is the goal of an evolutionary process or not" (p. 33). In the final section, on religion, yet another unwarrantable assumption is made. We are told that ethics involves immortality, in some sense which is not defined. "It is a fact that for those who absolutely deny immortality all things are at bottom ethically indifferent" (p. 222). If they do recognize moral obligation in spite of their unbelief, they are guilty of inconsistency. "A true justification for ethical intuition can be based on one foundation only, namely, a metaphysics of spirit which in some sense implies immortality" (p. 223). Consequently we must bear in mind "the hypothetical nature of the whole of our moral theory" (p. 211). But again, why? Why must our intuition of good and bad and obligation in daily life wait for the sanction of metaphysics before it can be taken as categorical?

Let us glance at the system of morals, in many respects an admirable one, which Professor Driesch bases on this hypothetical ground. Throughout, the really effective source of valuation and of obligation is, after all, no obscure supra-personal end, but the intuition of goods and bads in daily life. For, though the supreme end, in relation to which all earthly actions are but means, is something beyond our ken, it is said to be reasonable to take our own intuitive valuations as being given us to guide us in the right direction. Thus I do not *know* that my body ought to live, but if we *assume* that love of life was given because life on earth is part of the world plan," then I ought not to kill myself. And since my soul has an impulse toward activity, I may assume that this activity also is part of the world plan, and that I ought to seek to fulfil the potentiality of my soul. Further, having assented to my own life, I ought to assent to the lives of others. With regard to altruism, "all that part of ethics which refers to our attitude to others is clearly no more than a means to the attainment of the highest ethical end" (p. 92). "The others stand in the service of the highest, they do so in some form, although I do not know in what, and for this reason alone I am in a state of ethical obligation with regard to them" (p. 92). Surely this view is incompatible with the data upon which any ethical theory must be based. Suppose my neighbour is in trouble. Then I intuit unmistakably an obligation to help him, unless the helping would cause a greater evil than his trouble. I ought to help him, whether there is a world plan or not, whether he stands in service of a "supra-personal totality" or not. We intuit some things as intrinsically good, and some as bad. The goods can only be hypothetical in the sense that, if they turn out to be incompatible with greater goods, they ought to be sacrificed. Nevertheless, they are good, and their claim is of the same nature as the claim of the highest. It is arguable that *what* we intuit as good, *may, what we essentially mean by good, is the fulfilment, or progressive fulfilling, of the physical and mental capacities of living organisms.* No doubt, living organisms known to us may also be instrumental to some supremely good cosmic end, of which we can have little or no conception. It is not altogether unreasonable to hope that man may progressively discover this supreme ideal, and that even to-day his existence is not wholly irrelevant to it. On the other hand, it is just conceivable that he is not merely an irrelevance but a hindrance to that which is best in the universe. Even so it is gratuitous to assert that the good which we intuit in the terrestrial sphere is *merely* instrumental.

There is not space to follow Professor Driesch further through his elaboration of practical morality. Thoughtful persons, even if they reject his derivation of ethics from metaphysics, will accept very much of his morality. Killing ought not to be. Property is justified, but only within strict limits. We must be loyal to the state, but only so long as the state serves a good

end for the state is only a means to the good and that state is best which is least noticeable. Though the world ought to contain many cultural groups there should be only one state. The author is emphatic on this point. 'War must to day be absolutely avoided even as a means of defending neutrality' (p. 146). The time is at hand when the nation which wins many victories will be considered less glorious than that which refuses to fight. All this is excellent but why weaken it by making it dependent on a particular metaphysical doctrine?

W. OLAF STAPLEDON

Studies in the Nature of Truth (Berkeley California: University of California Press 1929 Pp. 232)

This volume consists of eight lectures delivered in 1928-29 before the Philosophical Union of the University of California by different members of the philosophical faculty of the University. By far the most important thing in it is Professor G. P. Adams's finely written and magnificently readable paper on Truths of Existence and Meaning.

Professor Adams begins by pointing out the cardinal difference between knowledge of knowledge (which its title proclaims to be the goal of the work before us) and knowledge of any other object whatever. In the one case the act and the object of knowledge are identical since what is known is the act of knowing. In all other cases of knowledge they are different. He proceeds after this prefatory notice of the paradox involved in his task to lay down what might seem to be the least controversial statement that can be made about knowledge: the statement namely that knowledge is concerned with and is about that which in some sense exists and has existence (p. 36).

Existence of some sort and in some dimension is ineluctably correlative with knowledge. This possession of existence or this just being an existence of some kind on the part of anything whatever which is the object of knowledge lies at the root of the deep seated conviction that the object of knowledge is and must be independent of its being known. Without this characteristic of independence knowledge is meaningless and impossible. For to say of anything that it is independent of any knowledge of it is just another way of saying that it has existence (p. 37).

From this fundamental proposition the paper continues (pp. 38-42) the corollary may seem inevitably to follow that the essence of cognition is passivity: a merely letting facts announce and register themselves. In attitudes other than the cognitive we react against the given: we commend, transform and select and the world of existents thus acquires a value and meaning by reference to our vital practical or æsthetic interest (p. 41). But this meaning and value are eccentric and adventitious to the existent things which are the objects of knowledge. They are attributes which we ascribe whereas the interest in knowledge is the interest not in ourselves but in existence (p. 40). A thing is qualified to become an object of knowledge precisely in so far as it *exists* i.e. precisely in virtue of that in its nature which is independent of any interests and activities of ours. And thus on the one hand the bifurcation seems complete between existence and meaning or value: on the other hand since the existent is by definition indifferent to thought it becomes impossible to conceive the connection between things and thoughts except as the mechanical connection of physical causation or as the connection which is no connection of causal correspondence.

Professor Adams nowhere renounces the initial proposition that knowledge necessarily of the existent, but he rejects this conclusion from it. He regards (pp. 48-49) as characteristic of those theories of knowledge which, looking at knowledge "from the outside," treat it as a physical object or a natural process, and the main interest of his paper lies in his attack upon it.

The inadequacy of any such theory of knowledge is first properly realized when we pass from the consideration simply of *knowledge* to the consideration of *truth*. Knowledge is directed simply upon existence, and Professor Adams is willing to allow for the moment that, so long as we concern ourselves exclusively with knowledge, there is nothing to prevent our regarding the succession of events which is reality, and the succession of events which is thought, as two natural processes physically related. But truth stands in no such simple relationship. Truth denotes the tribunal before which knowledge is summoned, to determine whether or no it really is knowledge' (p. 46); it is "the recognition, the certifying that knowledge is indeed knowledge" (p. 46).

Knowledge is concerned ineluctably with existence, truth is a judgment directly focussed upon knowledge, and consequently, but only indirectly, upon existence, through the medium of knowledge (p. 47).

Not only is truth the standard and judge by which, as it were, the completed products of knowledge are estimated, it is now shown (pp. 47-54) to have exercised a "normative or regulative influence throughout the whole process even of that knowledge which had appeared to be directed immediately upon existence. Professor Adams shows very convincingly that knowledge of a given is possible only in the light of a prior knowledge of the conditions of such knowledge, in order to be knowledge, must fulfil. We can know the given only in so far as it presents problems to us, and a problem is simply a discrepancy between the given and these ideal standards. "Were it not for the tension produced by this discrepancy, the mind might well be content to watch the panorama of things experienced float by, asking no questions, untroubled by truth or error, and a mind such as this would indeed have no knowledge" (p. 53). The possibility of knowledge itself implies the normative activity of truth, and thus the view of knowledge "from the outside" as two natural processes in relation is finally excluded.

The remainder of the paper is rather an anti-climax. If knowledge is an activity, then what guarantee have we any longer that it is "of existence"? Surely all that we attribute to the object of knowledge in knowing it must be laid to the account of our knowing activity, and not to the "real" nature of the object? Professor Adams suggests that the "real" nature of things may in fact be such that it requires (not receptivity, but) active inquiry, construction, operation for its revelation, that "ideal constructions in thought and discourse" may be "vehicles through which objective meanings are disclosed" (p. 59).

I suppose the most conspicuous weakness in the argument we have followed is the vagueness of the language about truth. The very crux of the argument depends on the ascription to "truth" of a variety of activities, which we might well be content to attribute in metaphor to a personified Truth, but which are inconsistent with the literal conception of truth, as being not itself an activity, but a characteristic of the activity of knowledge. Thus when we are told that truth is a "judgment" or a "recognition," we must object that judgments and recognitions may be true, but are not truth but knowledge. Admittedly this knowledge is not "of existence," and I suspect that it was Professor Adams's reluctance to surrender the "initial proposition" that knowledge is necessarily knowledge of existence, which impelled him unconsciously to pretend that his knowledge is not knowledge, but something else, namely "truth." But it

is quite clear, both from the functions which he ascribes to it and from the language which he holds of it, that this activity which Professor Adams personifies as truth is in fact nothing but the knowledge of knowledge. 'Truth grips existence, if at all, only through the medium of knowledge' (p 50) 'There is a reflexive character about truth, which appears to be lacking in knowledge' (p 46) 'Truth is a judgment directly focused upon knowledge' (p 47) And the identification becomes certain when we find him in one passage (p 51) explicitly ascribing to knowledge of knowledge precisely that regulative function within knowledge of existence which was previously attributed to 'truth'. We want to know what knowledge is, and we discover that we can only state what knowledge ought to be. A procedure which we supposed to be descriptive turns out to be normative. Precisely this knowledge of what knowledge ought to be is the 'ideal standard' which was shown to be regulative in our knowledge of existence. To call this activity truth and then to regard truth, knowledge, and existence as three processes standing in a triadic relation" (p 47), is simply to relapse into the fallacy which Professor Adams himself exposed, of looking at knowledge from the outside.

This is the same fallacy as the assumption that the object of knowledge is necessarily existence, and we have already remarked that Professor Adams never completely abandons this assumption. He still believes that 'the interest in knowledge is the interest not in ourselves but in existence' (p 40), he still maintains the possibility of "a metaphysics, a knowledge of the independently real" (p 57), and he bases his own theory of knowledge in consequence upon the postulate that it has somehow an objective correlate in the nature of things (pp 59-61).

Knowledge of existence is experience. It implies for its truth the postulate of a correspondence, which it cannot itself know, since it knows *ex hypothesi* the existence and not the correspondence. To conceive philosophical knowledge on a par with the same analogy, to make it the knowledge of "an other," or a meta-physics 'of the independently real,' is to make its truth dependent likewise on a postulate which it cannot justify. In the Middle Ages, I presume, faith was required to justify the postulate of the truth of knowledge. With Descartes (*Cogito*) this for the first time made its object not an "other," but itself (the *cogito*, but was not itself knowledge was knowledge of the presupposition of experience, knowledge of knowledge, and depended on no presupposition. This ought to be or of what was at the same time knowledge of what knowledge ought to be, makes knowledge true, i.e. it was at once true knowledge and knowledge of the ground of truth (to know self is at the same time to possess the Idea of God). It is thus at the same time knowledge of the ground of the truth of empirical knowledge, which is constituted empirical simply by its failure to know its own ground, and is therefore qualified to serve as the 'ideal standard' implicitly in experience ("What I clearly and distinctly perceive is true").

If Professor Adams had recognized in knowledge of knowledge a knowledge which is not experience and is therefore not of existence, and if he had further ascribed to this knowledge of knowledge the regulative functions which he gives to 'truth,' he would have followed more closely in the footsteps of Descartes, and I venture to suggest that he ought in consistency to have done so.

Among the other contributors the assumption seems universal, whether expressed or not, that thought is a natural process, and can therefore be "explained" in the same way as a physiologist might explain digestion, or a physicist the movement of atoms. This is, of course, to make knowledge of

knowledge a kind of experience, in which, as in all experience, the object is other than the act of knowing. Hence, because these writers make knowledge known something other than the knowledge which knows it, it follows that their theories of knowledge are never applicable to the knowledge of their theories. Thus a writer may say that knowledge is a response, an interaction, a "translation of structures" (cf. p. 131), a kind of relation, or what not, the possibilities seem bounded only by the limits of his ingenuity, but the knowledge that knowledge is a response, translation, etc., remains, not a response or a translation, but knowledge.

Professor Loewenberg has some good remarks on Correspondence (p. 29) embedded in a rather tedious theory that truth is "quadrupropositional." Professor Mead's "Pragmatic Theory of Truth" is notable mainly for some lurid sidelights upon the history of philosophy. The best of these papers are Professor Marhenke's on Belief and Fact and Professor Prall's on "The Inaccessibility of Truth." The former, starting from the assumption that Belief is a relation inquires with great minuteness and acumen what kind of relation it can be (e.g. whether dyadic or triadic). Those who cannot enter into the spirit of such inquiries can at least admire the rigorous discipline which they involve. Mr. Marhenke's very aridity is refreshing after a debauch of sensuous images masquerading as concepts and he would have earned the reader's gratitude if only for his abstention from the words "creative" and "dynamic." Mr. Prall's paper is a vigorous and well written attack, in the spirit of Pragmatism, upon any form of rationalism, or indeed, as its title implies, upon any system of thought which lays a claim to truth. I need hardly add that it does not convince.

M. B. FOSTER.

Philosophical Theology. By F. R. TENNANT, D.D., Fellow of Trinity College and Lecturer in the University of Cambridge. Vol. II, "The World, the Soul, and God" (Cambridge at the University Press 1930. Pp. xiv + 276. Price 15s. net.)

"From Science to God" might be taken as the motto of Dr. Tennant's second volume. We might go further and say, "From Science to Christ", for, though the doctrine of the Incarnation admittedly transcends reason, the author speaks of "Christianity as the culmination of natural theology, and Christ as the prophet of theistic religion" (xiv). For Dr. Tennant, natural theology is something very different from the *a priori* 'rational' theology of St. Thomas or of pre-Kantian philosophers. It is throughout empirical in method and rests on the bedrock of fact. "The empirically minded theologian would let the actual world tell its own story and offer its own suggestions" (78). *Not only the ontological argument, but the appeal to religious experience, is ruled out as irrelevant.* "The empiricist deems the alleged religious 'instincts' and the *lumen naturale* proved to be non-existent, and, previously to the influential establishment of theism, he must consider the mystic's claims to be untrustworthy" (16). In short, what the saint says is not evidence. God is not forthcoming—in Dr. Tennant's favourite phrase—by way of immediate intuition. He is inferred by way of 'logical probability,' as a 'reasonable' ground of explanation of the problem raised, but not answered, by non-religious knowledge of the world and man. The argument that leads to this conclusion is teleological, or rather cosmologico-teleological, for Dr. Tennant, like Plato in the *Laos*, rightly treats the two lines of reasoning as one. The known facts point to a cosmic teleology, which in turn postulates an intelligent and morally perfect Creator. Such is the theme developed and expanded in this volume.

into a 'reasonable' system of theology. There is no question at any point of logical demonstration. God is known, just as the world and the soul are known as an Object of probable belief (253). If we may say it without disparagement of Dr Tennant's close and able reasoning we seem, as we read, to catch an echo of the Scottish minister's opening invocation 'Almighty God, my everlasting hope and final hypothesis'. This forbodes ominously a severance between natural theology and religious experience for which God is no hypothesis final or other, but primary and certain fact.

Let us look closer into Dr Tennant's book. The first three chapters are introductory, mediating the transition from the first volume reviewed in this *Journal* two years ago. Of the matters there criticized, and particularly the doctrine that metaphysics must be based upon psychology, no more need be said for the interest and value of Dr Tennant's theology is not wholly dependent on an acceptance of his theory of knowledge. Nor can we linger over his masterly examination of the traditional scientific conception of nature as a self-contained system admitting of a rigidly mechanical explanation, for Dr Tennant is here confessedly flogging a dead horse for the benefit presumably of prospective clergymen when faced by opponents in whose eyes it is still a living winner. No theologian to-day is better qualified to discuss as he does in the course of these three chapters, the meanings of the ambiguous terms law, explanation, 'rationality' or to reconcile, against Kant and Professor Eddington, the objectivity of the order of Nature with the part played in scientific interpretation by the categories 'read in' by human thought. The physical sciences—such is his conclusion—are impotent to construct a metaphysic of Reality or—in Dr Tennant's terminology—to give knowledge of the ontal which is the ground of the phenomenal. 'Science can throw no light on the question what the ontal counterparts to physical bodies and phenomena are. It does not know what matter ultimately is and has no means of knowing. So far as science can tell, matter may be phenomenon of spirit' (50). This indeed is the conclusion to which, as we are told in the eighth chapter, a theistic metaphysic will incline. But that there are ontal counterparts to phenomena and their relations and knowable counterparts, is certain, and science by its disclosure of phenomenal regularity, states a problem as to their nature. Herein we may see the first link in the chain of facts which, while they do not logically demand, nevertheless cumulatively suggest as reasonable the teleological interpretation in which theism essentially consists (23).

The facts which form this chain are marshalled in Chapter IV, on *Cosmic Teleology*, the most constructive and important chapter of the whole work. The title is significant. The teleology in question is not that of the old fashioned Paleyan type which argued to theism from particular cases of organic adaptation: this was countered when Darwin and his successors showed that the adaptations could be produced by assignable proximate causes without reference to God. Dr Tennant appeals to a grander and more extended teleology whose force is strengthened rather than diminished by evolutionary science embracing in its sweep the entire history of organic and inorganic Nature and exemplified by 'directivity in the process' and by 'plan in the primary collocations of the universe' (83). This cosmic teleology can be substantiated empirically, irrespective of any claim to know the purpose and goal of the world process. Dr Tennant discusses successively six 'main fields of fact in which adaptation is conspicuous' (81), viz the adaptation of Nature to knowledge, of things to thought, the internal adaptedness of organic beings, the problem of their *Zweckmässigkeit ohne Zweck*, the adaptation of the inorganic to the production and maintenance of life, the æsthetic

value of Nature, the instrumentality of Nature to the development of man's moral life, and, finally, the interadaptiveness of the aforementioned fields of fact as exhibited in the course of emergent evolution, culminating in man as a rational and moral being. From this impressive synopsis of the evidence we select two points for comment. (a) Dr Tennant is justly severe on the use of the term "unconscious purposiveness" to describe (or is it not often intended to explain?) the self adaptation of infra human organisms to their environment. It is, he says, 'a phrase which either ministers to the confounding of things that are distinct, or else is a contradiction in terms' (70). Such organic behaviour 'is no more teleological, in the strict and proper sense, than it is rigidly mechanical' (ib). To speak of 'unconscious purpose' is merely to state a problem, while seeming to furnish a solution. The so-called purposiveness is found in many different forms in various departments of Nature. On the one side, it extends to the inorganic environment, which co-operates in determining the processes of organic life, as well as to its organic denizens (86, 108-9). On the other side it has its parallel in human endeavour, in the achievements of individuals and societies who have built more wisely than they knew (108) and, we might add drawing on matters familiar to the religious consciousness, in what Burke called 'the divine tactic' and Hegel "the cunning of reason," i.e. the overruling of man's conscious designs for high purposes, the nature of which he can barely descry when the event stares him in the face. How then are these facts to be explained? Above all, the amazing fact that Nature, unlike man, ever "keeps her head, which *ex hypothesi* is brainless, through all the changes and chances of cosmic history" (ib). What explanation is possible, save that of theism? "If Nature evinces wisdom, the wisdom is Another's. The issue narrows to whether what we may generically call the order in Nature is to be accounted an outcome of wisdom or of undesigned coincidence" (109). To assert coincidence is "not explanation, but statement of what calls for explanation" (ib). The alternative thus presented, *aut Deus aut nihil*, brings us to (b) our second comment on Dr Tennant's argument. Is the purposiveness thus referred to an external Author of Nature a purposiveness for good? Is the intelligence that designed the world a moral intelligence? Dr Tennant sees clearly that the question of value is all important for Theism. His discussion of the æsthetic value of nature is exceptionally interesting. Nature, he holds, is uniformly beautiful, or rather is so fashioned as to arouse æsthetic appreciation in the human spectator. "Alike on the telescope and on the microscopic scale. Nature is sublime or beautiful. However various be the taste for beauty, and however diverse the levels of its education or the degrees of its refinement, Nature elicits æsthetic sentiment from men severally and collectively, and the more fastidious becomes this taste, the more poignantly and the more lavishly does she gratify it" (91). On the other hand, the purposive works of man, save when the purpose is expressly to create beauty (and, alas! too often even then), are, "in general, æsthetically vile" (ib). "Here, then, are two kinds of agency, *ex hypothesi*, proceeding with indifference to the realization of æsthetic values: we might almost say the one never achieves, while the other never misses, the beautiful." Dr Tennant goes on to compare the universality of this potency in Nature for beauty with the uniformity of natural law, and finds in it a 'revelational function,' an indication of divine purpose, and what is more, a sign that God in His purposing is mindful of man (93). When we pass to the consideration of moral values and their status in the evolutionary history, the evidence, for all Dr. Tennant's bravery in argument, is less convincing. What is at stake is not the moral argument to theism as presented by Kant and Kant's idealist successors, for that is a *priori*

and presupposes the absoluteness of moral value—judgments, and as such is anathema to Dr Tennant. For him, moral judgments are no *universalia ante rem*, but subsist only in persons, as general rules developed in the course of human history for the guidance of human wills to human ends (99). Yet they enter into the constitution of the actual world, which in its entirety is "instrumental to the emergence, maintenance, and progressiveness of morality" (102). Is it? If it is not, Dr Tennant's theism collapses like a house of cards. Of course, he is far too able and honest a thinker to be blind to the difficulties or to evade them. To the objection, for instance, that we cannot draw conclusions from our fragmentary knowledge of the world to its nature as a whole, he gives an answer that is, in our judgment, satisfactory. The ordered oasis and the illimitable waste beyond are not isolable but interdependent. Nor must we fall victims to quantity shyness, "teleology is a value-concept, and magnitude and worth are incommensurable" (80). Admirable too are the defence offered of the anthropocentric world view against the charge of human arrogance (113-15) and the answer in a later chapter (VI) to the agnostic refusal to apply the category of design to noumenal reality. Less satisfactory is the curt dismissal (103) of the menace, which surely deserves consideration, of the reversal of the progressive trend and the eventual disruption of the solar system. It is true that "science's predictions are not unconditional, and that for all we know, the universe may possess undreamt-of powers of renovation" but if in one case the fragmentary nature of our knowledge is not allowed to tell against cosmic teleology, it surely should not be brought in elsewhere to weigh the scales in its favour. Empiricist philosophers like Dr Tennant, and, we may add, Professor Alexander, seem strangely prone to draw blank cheques on the future of the evolutionary process.

By far the gravest difficulty besetting the teleological argument to theism is, as Dr Tennant frankly admits, the fact of physical and moral evil. A later chapter (vii) is devoted to this problem. He refuses to take refuge, with Lotze, to whose theism Dr Tennant's presents many analogies, in a confession of its insolubility. Empirical theism is bound to furnish a theodicy, and to give reasonable grounds for the belief that 'this is the best possible world' (180). Dr Tennant will have no shirking of the issue either by the relegation of evil to illusion or privation, or by relieving God of responsibility through the empty supposition of 'a *præ*st of eternal laws' determining His creative purpose. The actual is not one case of illimitable possibilities, on the contrary, possibility presupposes actuality, and, like the actual world, is determined by what God actually is. The answer that the author proffers us is on familiar lines. The possibility of moral evil follows inevitably from God's gift of freedom to human agents: a gift apart from which the divine purpose of realizing a moral order in the world is inconceivable. "The best world must include free agents, creatures that are in turn 'creators' in the sense that their 'utterances' are not God's positings but their own. And freewill introduces contingencies, new causal series, and new possibilities. God stands 'a hand-breadth off' to give His creatures room to act and grow" (189). Moreover, "a world which is to be a moral order must be a physical order characterized by law or regularity" (199), and you cannot have the advantages of such uniformity without its drawbacks. "Thus physical ills follow with the same necessity as physical goods from the determinate 'world plan' which secures that the world be a suitable stage for intelligent and ethical life" (201). Of course the interest lies in Dr Tennant's detailed application of these principles, as when he treats of the self-conservativeness of good or discusses in a Kantian temper the problem, which evidently vexes him more seriously than any other, why God suffers our faith to be so sorely tried. If in earlier passages the author

is unduly sanguine, e.g. in his contention that while good comes out of evil, moral evil does not come out of good, his optimism is tempered towards the close of the chapter by hesitancy and reserve. Even if we accept, as Dr Tennant is prepared to accept, the hypothesis of temporal immortality, moral evil is in all probability an inextinguishable factor in the universe. "Theism is not pledged to the doctrine of universal hope, or the perfecting of every soul, nor to that of the annihilation of the hardened unrighteous, if any such there will be. The possibility of endless warfare against spiritual wickedness in the world to come presents no greater difficulty to theism than does the forthcomingness of moral evil in this present world" (196). We see here how, on the one side, the empirical method is strained almost to breaking point in the effort to furnish a theodicy, and, on the other, how wide is the gulf that parts a theism erected solely on a secular basis from that which is essential to religious worship!

Space forbids us to deal with the remaining chapters in which Dr Tennant develops his views on God's nature and attributes and on His relations to the world and man. Because of the importance of their subject matter, and because of the ability and frankness with which it is handled, they will prove to many of even greater interest than the main argument. Here we can only indicate in summary fashion what Dr Tennant does and what he does not do. His object is to determine the conception of God to which human thought is led by reflection on the world, after all data of specifically religious experience have been excluded from the field of reference. The result is a God who creates *ex nihilo*, conserves, and governs as a moral Providence, a world apart from which His being is unthinkable, a self-conscious spirit of determinate character, possessed of intelligence and will, and personal in that His activity is displayed in personal relations with His creatures, super-temporal, as are other ontal beings, but not in any of the traditional senses eternal—one whose perfection—if the term be allowable at all—is specifically ethical, that of a perfect moral Person who respects the moral personality of the free agents within His creation. He is not omniscient or omnipotent, but self-limited alike in knowledge (of future free acts of men) and in power (to control the freedom He has granted them), not *actus purus*, free from all potentiality, not immutable, save in that His purpose is unvarying, not impassible, not infinite, and certainly not to be identified with the Absolute, in any of the meanings of that most contentious term. Much of this proves on examination less devastating to orthodox Christianity than it appears. Dr Tennant's bark is often worse than his bite. That there are *impossibilia per se* is good Thomist teaching, the mode of God's super-temporality and its relation to temporal happenings, and the problem of His impassibility are matters open to dispute among the faithful, nor need any Christian be alarmed at the denial of infinity, when he is told by Dr Tennant that the only relevant use of the term is mathematical, and the denial merely signifies that neither God nor anything in His nature is a serial whole containing a part equal to itself. Yet many difficulties remain, which will cause searchings of heart, and thus not only to orthodox believers. Dr Tennant is out to construct a natural theology from which the mysterious shall be as far as possible excluded. He argues with great ability for the hypothesis of *creation ex nihilo*, in that it substitutes a single mystery, one ultimate irrationality, for the host of mysteries that crowd in upon us if we adopt any alternative view. But does he fully realize what the adoption of this hypothesis involves? We are told (122) that God and created souls are different orders "of the same ontal class—viz. spirits," and that "the many are as Real, and Real in the same sense, as the One on whom their being depends" (167). What meaning can we attach to this generic sameness, that

claims to bridge the gulf, impassable to empirical human thinking between the Creator and the creature? How can the *via analogica*, to which Dr Tennant appeals at every turn, here avail? If revelation be admitted, the case is different, but revelation, in the sense required, is ruled out from Dr Tennant's theology (see Chapter VIII). How, again, can God be conceived as Creator of the world, and yet as having no life or being apart from His creation (168)? Once more, the purely ethical character of Dr Tennant's theism gives rise to difficulty. In restricting God's perfection to moral perfection, he seems to make morality the last term in the ascending scale of value. But is not the phrase 'moral perfection' a contradiction in terms? Morality implies conflict against evil and is relative to the condition of imperfect agents in an imperfect world. Is God then but the least imperfect of imperfect beings? Dr Tennant, however, equates moral activity with activity of love (190). Is not this to slur over a radical distinction and to confound the moral life with the religious? Finally, God's moral activity, i.e. His love, is interpreted on the basis of an individualism that is fatal to an understanding of religious experience. He is conceived as, in His ultimate nature, a moral individual, related to human moral individuals, other than Himself, whose personality and moral independence He is bound to leave inviolate. Little wonder that there is no place in such a theology for vicarious suffering, for divine immanence in man, for revelation, or for the doctrines of the Trinity and the Incarnation, at any rate in the form which these ideas have received in the history of the religious consciousness. We find here illustrated (see Chapter VIII) the inevitable issues of a natural theology that rests, for its ultimate foundation, on the private self of empirical psychology.

We trust that, in making these criticisms, we have not misinterpreted Dr Tennant. His reasoning is not easy to follow, and it is couched in language of corresponding austerity. He has a habit of using unfamiliar terms that, we fear, is likely to prove a stumbling block to the theological students whose needs amongst those of others, he has had in view. But he has given the world a notable book, if only for this, that it shows the limitations of any natural theology which draws its materials exclusively from the fields of non-religious knowledge. There are other data than these which claim consideration from an empiricist. What, to our great regret, Dr Tennant has not done is to furnish that *Critique of religious experience* which, in our judgment, is the most urgent requirement of philosophical theology at the present time.

W G de BURGH

Logic and Nature By M C SWABEY, Ph D (New York City: The New York University Press, 1930. Pp. xiv + 384.)

The main purpose of this book is said to be the vindication of logic as the method of metaphysics, and to show the application of this method to current problems of science and nature. It is by no means easy to disentangle the main argument, but it is clear that Professor Swabey is anxious to protest against the metaphysic which appears to be implicit in Behaviourism, and which is here called 'Naturalism'. The present reviewer is in agreement with this protest. Professor Swabey well says: 'Whereas it is the merest platitude to assert that our biological make up has something to do with the character of our thinking, it is the extremest dogmatism to claim that all thought finally expresses nothing but an activity of adjustment on the part of the organism to its surroundings' (p. vii). In rejecting this dogmatism, Professor Swabey seeks to show that logical principles lie at the basis of experience, that to deny these principles is self-refuting, and that these

principles are independent of experience. It is, therefore, important to ascertain what Professor Swabey understands by "experience." She says, "By experience, I understand the variegated, multiform world which we live through as a panorama of sights, sounds, and shocks" (p. 4). This is undoubtedly a queer use of the word "experience." It is then asserted that experience is ceaselessly changing, but that change cannot be absolute, since "there can be no change unless *something* changes, whilst this something that makes change possible must itself be permanent." From the impossibility of absolute change Professor Swabey attempts to derive the logical principles that lie at the basis of experience.

It is disappointing to find that the logical principles thus derived include only the three traditional 'Laws of Thought' and the principle of sufficient reason. The derivation of these principles hardly appears to be satisfactory. The 'impossibility of absolute change' is taken to be equivalent to the 'constancy of change' and this is again taken to be equivalent to the 'changelessness of change.' It is asserted that the fixity of change indicates the operation of logical identity. So long as phenomena shift and flow, flux is flux, or A is A (p. 14). Then we are said to come to recognize the sameness underlying the wayward instability of things not merely by grasping *Change as Change*, but by identifying particular changes with *Change as such*. We learn not only that A is A but that a is A . That is, in a world which yields analytic identity, synthetic identity (the unification of cases and principles of particulars and universals) must also be found (p. 15). It is extraordinarily difficult to make sense of this statement which appears to involve a confusion between identity of reference, subsumption, and predication. These confusions pervade the whole argument of the book. For example, in arguing that the universe is a possible object of reference, Professor Swabey says, "the hypothesis of absolute chaos must be discarded on logical grounds, for even the most rudimentary conception of the mind requires some element of identity, some common essence, that runs through the particulars like a thread and unites them" (p. 367). What sense can be made of the suggestion that the resemblance between cherries, in virtue of which it is possible to use the class name 'cherry' to refer to any one of them, is a "thread" that unites all cherries? Nowhere does Professor Swabey appear to recognize any distinction between substantial identity, numerical identity, qualitative (or conceptual) identity, and equivalence. On the contrary, she speaks of "the identity of the individual and the universal" (p. 68), she asserts that "even the most fluid and variable world has in it apparently some regulatory principle, some condition by which it is possible to pass from certain things to certain others by means of an identity shared among them" (p. 21), finally, she maintains that "all qualitative comparisons seem ultimately to involve comparisons of quantity" (p. 213). After this it is not surprising to find that Professor Swabey accepts the view that " A is less than B " can be formally expressed by " $All A$ is B (and some B is not A)".

This insufficient analysis of the notion of identity is all the more serious since Professor Swabey attempts to derive the other logical principles from the principle of identity. It must be sufficient here to indicate how Professor Swabey derives the law of non contradiction from the principle of identity. She says "If change (A) is itself (A), it cannot be what is not itself (non- A), since, if it could be at once both the same and not the same, both itself and something else, it would apparently cease to be anything definite. By being both change and not change, it would lose self reference, since it would violate the law of identity that change cannot change its nature." It is surprising that Professor Swabey fails to realize that this derivation is

circular (p. 17) Accordingly she is able to assert that 'the principle of non-contradiction is found to be involved with the law of identity' Again the three principles are all found to be bound up with the constancy of change Thus she says "The law that change cannot change is found, when unfolded to harbour within it the notions of identity, non contradiction, and excluded middle The laws of logic thus appear at the basis of experience' (p. 20)

These quotations should suffice to show that there is some confusion in Professor Swabey's treatment of identity, and some haste in her attempt to show that 'logical principles lie at the basis of experience' Space does not permit the further discussion of these points It must be sufficient to note that this book raises several interesting and extremely difficult problems, for the proper discussion of which Professor Swabey has scarcely allowed herself enough space As a definite protest against behaviouristic forms of Naturalism this book may find a welcome

L. S. STEBBING

The Growth of Plato's Ideal Theory By SIR JAMES GEORGE FRAZER, O.M., F.R.S., F.B.A. (London: Macmillan & Co., Ltd. 1930. Pp. xi + 114. Price 7s. 6d.)

Sir James Frazer has here republished, without substantial alteration, the essay on the subject that he wrote as a Fellowship dissertation more than fifty years ago. Even in this comparatively youthful work he shows already, with an astonishing degree of maturity, the qualities of scholarship, learning, sound judgment, and brilliant powers of exposition which we have come to associate with his later writing. Platonic scholars must regret profoundly the early departure of the author from their ranks, even though another branch of knowledge has been thereby so greatly the gainer.

We may take this book as a safe guide to what a sound scholar might reasonably have held about Plato's philosophy at the time of its publication. And it is of great interest to compare it with what is written on the subject to-day in order to measure the progress in Platonic studies that has taken place in the interval. To those who believe in the continuity of knowledge it is satisfactory to see how much of what was written then could still stand. There are, of course, many disputed points of interpretation. And some things that were taken for granted then would have to be defended now. But there is little that could not be reasonably defended and that would not be maintained by some scholars of the present day.

One point of importance that would, I think, have to be corrected is Sir James's view that Plato's theory of Ideas, as a theory of reality, represents an unfortunate development of a Socratic doctrine of concepts or general notions, which was purely a theory of knowledge. That this is a wrong way of looking at the question seems certain. The main current of Greek thought was essentially realist, and the attribution of a conceptualist theory to Socrates or anyone else is an anachronism. It would hardly have occurred to them that there could be such a thing as a theory of knowledge which was not also a theory of reality, though they might not have worked this out in its completeness. We owe it to Burnet, more than to anyone else, that we have begun to realize this clearly. And we owe it to the general movement of philosophical thought that many of us would assert that the Greeks were, in essentials, on the right lines in their assumption of this point of view.

An omission, which a modern treatment of the subject could hardly make, is the absence of any discussion of the evidence of Aristotle in the *Metaphysics*.

NEW BOOKS

for Plato's views and of the theory of Ideas as numbers. Since the work of Robin, it has been increasingly realized that this is not a mere "senile aberration" of Plato's, but an essential development of his theory. A consideration of this might have made Sir James doubt the suggestion in his preface that Plato subsequently came to abandon the theory of Ideas. It is curious that, in spite of this statement in the preface, the exposition of individual dialogues in the main body of the work supplies no evidence in support of it.

In general, the reading of this book suggests to me the possibility that we have arrived as far as we can on the road to an understanding of Plato by an intensive study of his writings. That is, of course, an essential preliminary for any would-be Platonist, but it will only bring him as far as his predecessors have already reached. The sources from which further progress may be hoped for are threefold. There is still room for further examination of the evidence of other ancient authorities, particularly Aristotle, though we are probably approaching the stage at which this source of new light will be exhausted by the careful study devoted to it. There is still much to be done in the way of investigation into the environment, particularly the environment of contemporary philosophical thought, in which Plato constructed his theories. And, finally and above all else, there is always something more to be gained by attempts to think out for ourselves the philosophical problems with which Plato was concerned.

G. C. FIELD

Humanistic Logic for The Mind in Action By OLIVER L. REISER, Ph.D.
(New York: Thomas Y. Crowell Company, 1930. Pp. x + 326. Price 3 dollars.)

This book is very evidently the product of post-war reflection. Dr. Reiser seems to believe—or at least to hope—that by the "humanization of logic" men may eventually satisfy Aristotle's definition of "man." Accordingly, he assigns to logic the "very positive ethical function" of "showing men how to secure that intelligent public conscience which is indispensable to the creation of heaven here on earth" (p. 42). Thus the problem of logic is said to be "the problem of making people intelligent, of making social action reasonable" (p. 6). Logic so conceived seems to bear little relation to what is more ordinarily understood by "logic." But Dr. Reiser also takes the view that "Logic is the most general and most abstract science in existence" (p. 59), although he at the same time holds that "Logic must be expanded so as to become the science of the whole mind as it functions in adjusting itself to the physical, social, and intellectual environments. Logic, in other words, deals not alone with thinking 'as such,' but also with thinking as related to the other functions and capacities of human nature" (p. 20). Dr. Reiser attempts to reconcile these apparently incompatible views of the nature of logic by supposing that logic is concerned with 'thinking,' and that "good thinking aims to be both logical and ethical."

The book is divided into four parts. Part I, entitled "The Humanization of Logic," points out the need for a more rational attitude to social problems if the world is to be made a better place to live in than it is at present. Dr. Reiser insists that "before the logician can make persons logical he must get them interested in being as intelligent and as intellectually honest as they can be" (p. xii). Part II, "Logic and the Sciences," discusses the relation of logic to mathematics, psychology, and the natural sciences, and ends with a chapter on "The Evolution and Future of Logic." Part III, "How Our Knowledge is Organized," begins with an analysis of "a complete act of thought," and proceeds to deal with judgment as the "most

experience in psychical research believes in the survival of personality. How do these beliefs colour their valuation of the startling hypotheses which have come to the front in physics in the last few years?

Eddington realizes the great difficulty and doubtfulness in interpreting physically the modern mathematical treatment of atomic processes, and he only does so, he says, against his better judgment. He therefore does not seek a loophole here, but puts great emphasis on a new principle due to Heisenberg, the Principle of Indeterminacy. He does not regard this principle as a result to be deduced from Schrödinger's wave-mechanics theory, but ranks it in importance with the principle of relativity. This principle asserts that a particle can have position or it can have velocity, but it cannot accurately be said to have both. When we attempt to measure the position more accurately the momentum becomes more vague, and *vice versa*. Now, it is characteristic of the relativists that when they fail to measure something they promptly declare that it does not exist. So they assume that the exact position and exact momentum of a particle can never be determined because they do not exist. And if we are unable to determine these, we cannot predict atomic future events exactly. Thus there is some doubt as to what individual atoms may do. But even so Eddington cannot convince himself that mental decisions involve changes in only one or two key-atoms. Mind must somehow interfere with the behaviour of large numbers of atoms, *i.e.* with statistical laws which become exact and certain when the number of atoms is large enough. Thus Eddington, although he cannot bring himself to believe that the Principle of Indeterminacy has solved the problem of the connection between mind and matter, thinks nevertheless that the position is eased somewhat, since to suppose mind capable of interfering with the probability of undetermined behaviour of atoms is not so revolutionary as interference with rigid natural law. Actually in the end, of course, Eddington gets out of it by limiting scientific method to metrical fields only, and so, feeling free to ignore the work of psychologists, he takes mental events much less critically than he would physical events, and so retains his faith in the inner light.

Turning now to Sir Oliver Lodge he wants to find a permanent basis for life and mind, so that survival of bodily death becomes natural and obvious. He has no use for Eddington's postulated defect in the law of causality when dealing with small individual particles—"Break down causality, and we are left with chance. That is wholly unsatisfactory. It may be true that the jumps of electrons in the atom cannot be predicted, they often seem to occur by chance. But not in that way would I aim at freedom, for chance is no solution. The laws of Probability only apply to a multitude, not to an individual. There must be a cause for each of those jumps" (p. 147). Neither will he shuffle out of it in Eddington's manner, by limiting science to its metrical aspect. Biology and psychology apply the scientific method in non physical fields and must not be overlooked.

Now, in examining Schrödinger's hypothesis of ψ -waves, Sir Oliver Lodge finds just the non material basis for life and mind that he wants. For according to Schrödinger, in order to account adequately for the facts of atomic physics, we must regard a particle as a *group* of waves, the individual components of which are not perceptible to the senses, and have very high frequencies which in some way represent *energy*. It is essential that waves of different frequency should travel with different velocities, *i.e.* that there should be dispersion. Since dispersion does not occur for electromagnetic waves in space, there is no question of these waves being interpreted as of the same nature as ordinary radiation. These waves form the particle of

matter and its motion is determined by theirs so that they may be said to guide matter although themselves not material. They thus have the characteristics of life and mind and Sir Oliver Lodge boldly places them in his Ether. When we want to solve an atomic problem we have to find what happens to the ψ waves by solving Schrödinger's wave-equation and then see how the group moves about. If the group is small enough it appears as a classical particle: if it spreads over a large area all that can be said is that the particle corresponding to it is equally probable to be anywhere within its area. But although there is uncertainty as to the whereabouts of the particle (if any) there is no uncertainty as regards the controlling ψ waves: they must obey the equation

$$\nabla^2\psi - \frac{4\pi m e}{h} \psi - \frac{8\pi^2 m V}{h^2} \psi = 0$$

This can hardly be said to bristle with spontaneity and free will! These guiding waves obey laws. Sir Oliver Lodge admits that he does not fully see how planning and purpose can be given a physical basis in this way but he prefers this approach to Eddington's postulated breakdown in causality.

But in spite of his many quotations from Eddington Sir Oliver Lodge does not include—Schrodinger's wave-mechanics is not a physical theory but a dodge—and a very good dodge too. For when Schrodinger deals with complicated cases he needs many spaces: *to* his space in which ψ waves occur is not physical space but an imaginary configuration space convenient to mathematicians and very different from that almost tangible space teeming with rotational energy and departed spirits—the Ether of Sir Oliver Lodge.

In a few instances the author allows his predispositions to get the better of him and his biological arguments suggest evolutionism rather than evolution. The horse for instance is a more splendid animal than *schippus* and its other ancestors. Species do progress from lower to higher forms. And that admission if made does suggest that the whole is advancing towards some ultimate perfection and that the stages in the process cannot be devoid of meaning and purpose (p. 17). It is true that biologists agree that on the whole there is a tendency in evolution to greater complexity although there are many cases where the reverse is the case and animals have degenerated. But they also point out that increasing progress in complexity has led in the past nearly always to extinction through lack of adaptability. So that if we *do* make the admission that Sir Oliver Lodge wants it will be such a grudging one that the warm glow of evolutionism with which it was surrounded will have faded almost entirely.

It would seem that the Principle of Indeterminacy holds in philosophy as well as in physics. One can talk accurately about mind at one time and accurately about matter at another but it seems impossible to talk accurately about both at the same time. Should we then in the relativistic manner declare that neither exists? Or should we follow Sir Oliver Lodge and attempt a unification even though when we have finished our position is more uncertain than that of an electron in an atom and we hardly even dare to say that it is equally probable that we are anywhere?

* *The Nature of the Physical World* p. 219

NEW BOOKS

The Ethical Basis of Political Authority By WESTEL W. WILLOUGHBY
(New York The Macmillan Company 1930 Pp viii+460 Price 15s
net)

This is a long but on the whole readable book, though probably it suffers through the somewhat numerous and lengthy extracts which the author makes from the writers discussed, no doubt in his anxiety to present their case fairly and in their own words. Such a procedure has its advantages, but in this case it unduly prolongs the discussion and interrupts the presentation of the author's own view. The treatment generally is along historical lines, and the author by an examination of various theories endeavours to elucidate his own attitude. For its exposition and discussion of these doctrines, which comprise theories of anarchy, Divine Right theories, patrimonial theories, mystical or transcendental theories, theory of Fascism, social contract theories, the more recent theories of Duguit, Krabbe, Laski, Cole, and others, and because of its clear formulation of the specific questions to which the general and fundamental problem of political theory is reducible, it is well worth study. The ground covered is the modern period but within that limit it is very comprehensive. Probably a little too much attention has been paid to a certain type of view such as that represented by Treitschke and Bernhardi. A recent restatement of Filmer and his Divine Right theory might have been noticed and it would still seem that Hume is considered as having said nothing worthy of notice in political theory, apart from a refutation of the contract theory, though he devotes in his treatment of *Morals* considerable space to the problem of political and moral obligation, while Bentham is presumably just as important as a host of the noisy publicists to whom the author gives serious attention.

But the problems with which political theory deals are full of perplexity and difficult to handle. This appears strongly in the crowd of theories of varying tendency and very varying quality which make one blush for the name of political theory. Professor Willoughby works his way carefully through the mass of confusion and contradiction, and, with some exceptions, such as those theories which he designates ethico-juristic, associated with the names Duguit, Krabbe, Laski, and others, and the central idea and main tendency of which one feels he has not properly stated or fully appreciated, his criticisms are effective. What defects mark the book are attributable to the historical line of treatment. There are concepts like society, state, rights, obligation, and so on, which underlie the controversy and which require careful and rigorous analysis and definition. In the absence of any such analysis all discussion rests upon assumptions that are never shown to be more valid than or preferable to other assumptions, and in consequence the validity of the doctrine asserted partakes of that indefiniteness and uncertainty. The resulting state of mind of a reader may aptly be compared to that of a person who, without being instructed in the assumptions involved in the two cases, is informed by one mathematician that the three angles of a triangle are equal to two right angles, and by another one that they are not, and that they are more than two right angles.

The author indulges in so much exposition and criticism that some difficulty is experienced in getting hold of his own view. Chapter XIV is labelled 'The True Basis of the Right of Political Coercion', and this chapter with the following five may be taken as expressing particularly the author's view. The main and fundamental problem with which he is concerned is the basis on which can be justified that authority possessed by the State, exercised through various persons occupying official positions, and appearing especially in the form of coercion. Coercion by the State is not the only form of coercion

that occurs, but the author confines himself to it and to a consideration of the problem which he feels is involved in it. He holds that political theory can and ought to ask what is the ethical basis on which the State acts, and whether or on what conditions its laws and coercive acts are justified ethically. His general argument is that the State has no inherent right to exercise coercion. It has an ethical end to pursue, and is justified in its coercive acts in so far as it secures this end by a more efficient and less oppressive form of control than would exist without it. On the whole, political coercion has been found to be preferable to unrestrained coercion, the exact sense of unrestrained being left indefinite by the author. The ethical end is the development of one's best self, and presumably the author means that the State must pursue the development of the best selves of its citizens. The self is interpreted in accordance with the prevailing contemporary doctrine, as essentially social in nature and morality is asserted to have no meaning apart from society. Hence rights are not inherent in human beings as such, they are created by the State and are relative to societies, persons, and conditions. It is impossible to formulate any abstract rules in accordance with which the legitimacy or illegitimacy of State control and of its limits can be determined. Viewed abstractly, the State *can*—that is, presumably ethically—enter into any sphere of human life and activity. Various factors play a part in determining the expediency of State-control and coercion. The author proceeds to work out these ideas in relation to inter-State affairs, in which, to judge from this work, a greater interest is manifested on the other side of the Atlantic by political theorists of academic rank than on this side. Professor Willoughby refuses to adhere to the unqualified view that nation and State should coincide, for nationality, even if it were capable of definite meaning is at most only one factor to be considered along with others in deciding the territorial limits of political jurisdiction. Nations, and particular States likewise have no absolute inherent rights, and it is conceivable that a particular State ought to and might have to sacrifice itself for the good of humanity. A State like an individual, has no absolute right to existence, its right is relative and so are all other rights which States may claim or assert.

This argument seems to amount merely to saying that political action is a matter of discretion. The latter is to be no doubt exercised for an ethical end but this end is left indefinite and is capable of varying interpretations. One person may hold that non coercion is an important constituent of the ethical end he may stress liberty and freedom while others may emphasize order and security by regulation. A nation may claim to be ethically superior to others. Individual judgment, discretion, expediency involve preferences, selection and rejection of ends. The fact, says the author, that something is a law is itself a factor that in case of dispute or opposition must be taken into consideration but how much weight is to be given to this against other factors? Is political stability, as is suggested by a passage quoted from Mr Lansing with approval of so much importance that it outweighs every other consideration? Professor Willoughby does emphasize a valuable point when he insists that all so-called State decisions and acts are decisions and acts of individual human agents or moral persons, and that moral responsibility rests with them, and must not be thrown upon some mystic entity called the State. On the other hand, the individuals being governed or coerced are equally moral persons and, as the author says, have the right and the duty to consider whether the command is such as they morally approve and can morally obey. Though Professor Willoughby in the course of his discussion makes many interesting points, it cannot be said that in

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the end the difficulties of political life receive much elucidation. He regards coercion as arising out of a conflict of interests while at the same time he holds to "some sort of common interest" of which there is consciousness, which is the basis of rights, and which presumably would exclude any need for coercion. Many political theorists are like him in wavering between these two opposing ideas. The result is that it is not easy to see what justification there is, not merely for coercion by the State, but for *any* form of coercion. Yet the nature of the author's argument seems to assume the fact and the justification of non-political coercion, for he says that State coercion is justified if it is less oppressive and more efficient than other forms. What is therefore required in the first place is a justification of non-political coercion, and having done so, he would then have to justify his assumption, which many other theorists would not admit, that the State is merely instrumental.

Professor Willoughby is at considerable pains to distinguish between legality and morality, between the juristic and the ethical points of view, and it is one of his points of criticism against Duguit and others that they ignore this distinction. The jurist is concerned with the existence of law and with a test whereby he can know whether anything purporting to be a law is or is not a law in fact. He does not as a jurist trouble himself about the goodness of laws, about the good or bad use of coercion, or about the right of the State to use coercion. He is merely interested in the legality of the acts done in the name of the State. From this juristic point of view it is the State that creates law, while whatever the State is prepared to enforce is to be taken as a command of the State. This expresses for the author the idea of the sovereignty of the State and its legal omniscience. It has in his opinion nothing to do with material or physical power, and carries no implication of ability to enforce the decrees which it is legally competent to utter. But it is difficult to avoid the objection that at most this is a purely formal conception and even an idle fiction irrelevant to the reality of the situation, and it is just this unreality against which Laski and others protest and which they assert must be removed in favour of a conception more closely related to the actuality of the situation. The author may be allowed his point against the pluralists that, except on a somewhat optimistic view of things, a final co-ordinating and deciding authority will be necessary, and that such an authority will be after all what the State is now, but this is merely to insist that in the working of any complex modern community there must be in its organization some point whence issue decisions that are final and uniform. It is finality and uniformity of decision that are important, and the significance of these for the character of the State Professor Willoughby seems to overlook.

B. M. LAING

Moral Sense By JAMES BONAR, LL.D. (London: George Allen and Unwin Ltd., 1930. Pp. 304. Price 12s. 6d. net.)

Dr. Bonar tells us in his preface that "by the inclusion of this volume the Library of Philosophy is fulfilling a promise of its original programme of forty years ago." I do not know whether Dr. Bonar himself made the promise, or how long ago he made it, but (as might be inferred from others of his published writings) he has so extensive and so detailed a knowledge of British ethics, economics, and social philosophy in the eighteenth century,

that a very long acquaintance with this literature on his part leaps to the eye. In short (especially perhaps in the footnotes), his book is a mine of information to those who are serious students of the period, and will also (I fancy) be welcomed by more desultory readers. It is rather short, for the print is very large, but the author, doubtless, has deliberately chosen to make it so.

Apart from certain addenda hereinafter to be mentioned, the book consists of essays upon Shaftesbury, Hutcheson, Hume, and Adam Smith, with side glances at their contemporary critics. The "moral sense" is a sort of overtone in these essays, not pedantically emphasized.

The essays upon Hutcheson and upon Adam Smith seem to me to be admirable. With respect to Adam Smith in particular, the easy and natural way in which the author conveys important information by reason of his exact knowledge of the alterations in the various editions of the *Moral Sentiments* is, I think, particularly commendable. I do not like the account of Hume quite so well—perhaps because I was shocked by a serious error in it, and disturbed by a minor one. [The serious error occurs on p. 124, where Dr. Bonar says that Hume was "going against all previous moral philosophy in disputing the pre-eminence of reason above passion." Aristotle's statement that "reason by itself moves nothing" may have been misconceived, but was, in fact, a common doctrine of the schools. Hume applied the dogma, and Dr. Bonar might also have remembered the existence of a man called Pascal and of certain of Pascal's more notorious arguments in this connection. The minor error (p. 136) consists in Dr. Bonar's suggestion that Hume had no theory of generalization, whereas in fact Hume propounded a very definite theory in the *Treatise* I, I, vii.] On the other hand—although I hope I am wrong—I cannot think the first essay (on Shaftesbury) at all successful. It seems to me jerky and inconsecutive, leaving the reader in doubt as to what Shaftesbury meant to say, or, if he meant to say different and inconsistent things, where precisely the inconsistency occurs.

The remainder of the book consists (1) of a concluding chapter entitled "Kant on the Moral Sense," and (2) of a dialogue in Valhalla in which 'Shaftesbury abides the questioning of a young modern admirer.' The concluding chapter is much more general than its nominal title, and is an obituary notice of 'moral sense' containing very little sentiment towards the deceased. It is disfigured by the common mistake of regarding Locke as a mere presentationist in philosophy (p. 252), and by the acceptance of Green's absurd doctrine that "consciousness alone makes relations possible" (as if Dr. Bonar's body could not be bigger than his heart until somebody's consciousness made it so), but on the whole, it is wise and temperate. The dialogue seems to be rather dubious about its own purpose. It professes to be about "natural gifts and graces," but by its own admission (p. 294) is drawn away into other regions. While Dr. Bonar has an undoubted aptitude for this difficult species of writing, he seems to have made the young admirer admire Shaftesbury so much as to adopt Shaftesbury's way of speaking. At any rate, it is hard to suppose that any modern young person would say (for example, p. 281), 'What of a man quite just in motive, willing the Good with his whole heart, and finding it to part itself before his eyes into two Goods, of which he is to choose the more good?'

JOHN LAIRD

Materialism and Vitalism in Biology By SIR PETER CHALMERS MITCHELL
CBE DSc LL.D. (The Herbert Spencer Lecture delivered at
Oxford June 3 1930) (Oxford at the Clarendon Press 1930 Pp 30
Price 2s)

Fifty years ago Sir Peter Chalmers Mitchell read Herbert Spencer's *First Principles* for the first time re-reading it again he tells us in 1930 in preparation for his lecture. What his impressions were on re-perusal we shall see presently meantime it is interesting to note the significance of the date 1880.

Michael Foster in his *Lectures on the History of Physiology* shows how during the last three centuries biology has exhibited alternating phases of materialism and vitalism. Materialism when under the stimuli of progress in physical science it made great advances and vitalism when those stimuli being exhausted it marked time. Now the last great period of fertile physiological discovery began at about the end of the twenties of the nineteenth century and culminated in the sixties. The great names Bell Gall Wohler Claude Bernard du Bois Reymond Graham Mayer Bowman Ludwig Helmholtz and others belong to this period. So do the fundamental discoveries and the productive methods of investigation. In pure zoology the great period was the fifties to the eighties. The *Origin of Species* was published in the fifties. Between the fifties and the eighties was the phase of morphology under the stimulus of Darwin's hypothesis. In the eighties was Weismann and the fertile notion of the germ-plasm. Since then biology has again marked time for we cannot lay genetics mendelism and biochemistry alongside the great work of physiology in the first half of the century. Our own times are marked out by only two fertile series of investigations that of Sherrington on the physiology of the nervous system and that of Galton Weldon and Karl Pearson on biometrics. During the years about 1840 to 1860 came the reaction against vitalism led by Ludwig Helmholtz Claude Bernard and du Bois Reymond. In the nineties came the reaction against materialism led by Hans Driesch. Since the war the younger generation of biologists pre-occupied by questions of sex and genetics have tended to become vitalistic in a nice kind of way. In 1880 then the great days of biological investigation were about run—for a time—yet it must still have been possible then to get the thrill resulting from the triumphs of the materialistic methods of the science. Even now one may faintly have that thrill from the reading of the earlier Huxley Essays.

We may however suggest that a continual origin for the controversy Materialism *versus* Vitalism is to be found in the different Welt Anschauungen adopted by thinkers. Pure unemotional science is interested in the relations between the data of observation and experiment as contemplative of the order displayed but is perhaps more conscious of the *power* which science gives us over our environment. But though science as William James has said is now an idol of the tribe there is a more prevalent attitude towards nature. Listen oh my son There is no wisdom like unto the belief in God. He made the world and shall we liken ourselves to Him by seeking to penetrate into the mysteries of His creation? Shall we say Behold this star spinneth round that one and this other star with a tail goeth and cometh in so many years? Let it go. He from whose hand it came will guide and direct it. Something like this is the attitude of the majority of men and women though a certain indifference may characterize their conception of a world which after all is good enough as it is. It is true of course that lots of people have an interest in science—which gives them something for nothing!

Still, even the curious letter quoted above suggests a reason for the "hard materialism" represented by the *First Principles*. Much of the universe was known, much was unknown but knowable, and much was unknowable. With regard to the latter region, those whom Sir Peter Chalmers Mitchell called the religious and philosophical dogmatists of the last century" had much to tell us. But, he says, the wind of scientific discovery blew coldly on these "shorn lambs", until the reaction of the present phase came, when the lack of power of modern biology "backed the wind to a more clement quarter." The dice of scientific data became loaded with "emotional prepossessions masquerading as 'values'." Physics, with regard to the ultimate elements of matter, tended towards indeterminacy and away from the hardness of materialism [Though, as our author acutely observes, this only serves to break down the distinction between the determination of matter and the supposed indeterminacy of life.] Then came telepathy and "spooks," masquerading under Driesch's "parapsychology." The circle has again been rounded, and we cannot doubt that when biology again accepts the stimulus afforded by the modern study of radiational physics it will return to its attitude of a century ago.

After fifty years, then, Sir Peter finds that "a materialistic monism is more, not less, credible than when Spencer wrote." We have to deal, he says with consciousness and a stubborn externality which is not-consciousness, and which appears to us in two contrasting sets of phenomena grouped under the terms matter and life, each in its most simple connotation. The theory known as materialism assumes that the phenomena of life are only special cases of the phenomena of matter, and are determined in the same fashion. If we knew all the physical and chemical factors implied in any living phenomenon, we could predict results as certainly as we can those that proceed from a lifeless material arrangement. Just as at every moment inorganic materials are assimilated into the living body of an organism, so, sometime in the past, non living materials came together and became living systems implying matter and energy and consciousness. Consciousness may have been an emergence from materialistic activities (though Sir Peter rather looks on the term "emergence" as of the nature of the blessed word Mesopotamia "to many persons more earnest than sensible.") After all, it may be 'a gift from the unknowable,' and it is open to each of us to make his choice. Meanwhile, accurate physiological research resolves the working of the organism into "exquisite mechanism" after exquisite mechanism, and over and over again materialism has proved itself the best working hypothesis of science. There is a hunger after final explanations which is a kind of Protestant anthropomorphic vanity, at one time repressed by dogmatic religion. Our author neither shares nor sympathizes with this attitude. Do good work in the field and laboratory, he says, and let theory alone. [So, he contends, the theory of hormones explains embryogenic processes! At each stage of development hormones appear and stimulate the course of the succeeding stages.] Obviously we have here the stalwart of the nineteenth-century biological materialism, and when we are tired of speculation and hypotheses that are apt to become the basis of the newer apologetics, the attitude seems the more satisfactory.

Yet one doubts that even from the work reviewed a dualism, and not the monism of Spencer results. There is consciousness and that which is-not-consciousness and against which life may not ultimately prevail. That which is not consciousness is the passage of nature—all materials and energies tending inevitably, as entropy increases, to their most probable state of disorganization and ultimate chaos. Against this tendency life protests. If

the organism were only something fully participating in the passage of nature, it would drift unconsciously with the latter as a straw drifts with the current of a river. But obviously the organism *resists* the drifting towards the degradation of energy—that is what is meant by its assimilation of lifeless matter, by its accelerative reproduction, by its continual adaptations whereby it makes the best of things and by its utilization of natural energies that would, of themselves, suffer irreversible dissipation. This externality, or absolute natural tendency, which must in the end, sweep up organic and inorganic alike into chaos is one side of the dualism. The other side is the consciousness which in its dimmest manifestations resists and retards the passage of nature and in its brightest development comes to know the tendency of the passage. It is what remains in the world, which is already something chaotic of the original cosmos which the world was.

It is very well that this lecture was printed. It is most valuable just now, when there is certainly a softening in the fibre of biological investigation, that some vigorous expression of the fertile, aggressive spirit of the nineteenth-century biology should be made. In this little booklet that spirit is given expression in the happiest form. It is the hope of the present writer that it may receive the widest possible publicity and circulation. It is unfortunate that the pamphlet is much too dear.

JAS JOHNSTONE

Human Speech. Some Observations, Experiments and Conclusions as to the Nature, Origin, Purpose, and Possible Improvement of Human Speech
By SIR RICHARD PAGET, Bart (London: Kegan Paul, Trench, Trübner & Co 1930 Pp xiv + 360 Price 25s net)

The first six chapters (126 pages) are the best part of the book and the most truly representative of the author. If we add the thirty six pages of Chapters XI and XII, what the book gives us of value is a personal study of practical vocal acoustics with applications to the imitation of vocal sounds by mechanical devices. Sir Richard's observations and conclusions are based on experiments with models and with his own vocal apparatus, his ear in most cases being the *experimentorum arbiter*.

The double resonator theory of vowel sounds is dealt with mathematically by Mr. Benton in one of the eight appendices. But vocal acoustics, as Sir Richard himself points out, is not phonetics or linguistics.

For the nature and development of the voice mechanism, the student will naturally turn to a volume like Mr. Negus's recent work on *The Mechanism of the Larynx*, for precise details of the formation and nature of the sounds of an actual form of speech, even for adequate "pictures" of the 'gestures' so frequently mentioned in this book, to well known works on the phonetics of various languages illustrated by palatograms and diagrams based on X-ray photography, cinematography, and kymographic tracings, for a social and functional study of the Voice in Action to linguistics, and as a beginning to Malinowski's *Essay in Ogden and Richard's Meaning of Meaning*, and for the development of different languages to Modern Philology.

In the early announcements the title given was 'The Human Voice'—a much better name for the book. And the substitution of "The Human Voice" for 'Human Speech' in the sub title would give a better idea of the bearing of the subject matter, which is mainly acoustic.

The author, however, attempts to forge a link between his practical acoustics and what we may call his linguistics. The conclusion of his experiments and observations on vowel resonances, and again of his acoustic work on con-

sonants, is "that we unconsciously recognize the tongue and lip posture by their acoustic effects, and are primarily interested in the postures rather than in the wave form or tone colour which they produce" Few readers will be "driven" to this facile conclusion that 'in recognizing speech sounds the human ear is not listening to music, but indications due to resonance, of the position and gestures of the organs of articulation' (p 126) It may hear both, but what it really does is to co-operate with the other senses in observing the purposive social use to which the sounds are put

It is not clear whether this latest form of the gesture theory based on acoustics is put forward to explain the fundamental nature of actual speech, or as a guess at prehistoric origins, or as a contribution to the study of meaning, or all three The pronunciation of the simplest word involves, besides certain areas of the cortex and related processes, the whole of the respiratory tract, the diaphragm, and certain muscles of the abdomen The whole of the respiratory mechanism and the larynx in addition to the supra glottal articulatory organs are involved in an integrated motor act To suggest that the motor background of speech is merely the understudying of manual gesture by "tongue tracking" and lip gesture is obviously unsatisfactory The author seeks to strengthen his case by excluding the larynx as a true organ of speech Apart from the fact that it is an articulating organ for the glottal stop and consonants with accompanying glottal closure, and certain types of 'h' sound, the voice gives pitch, and pitch can have semantic and grammatical function, and thus be as essential a part of the framework of a language as the inflections of synthetic languages composed of vowels and consonants It would be quite impossible to give an account of the morphology and syntax of the West African Efek, for example without regard to the varying pitch of the voice Moreover, speech is as full of feeling as the social life of which it is a directive function Speech behaviour has an especially affective character, and the intonation of the voice, ranging in an average male voice about two octaves, is of the greatest affective value, though breathed sounds, as Sir Richard appears to forget, are often used in emotional vocal acts—e.g. in hissing As an explanation of the fundamentals of actual speech the gesture theory fails

We can be more tolerant of theories of remote origin, because they don't really matter In the Book of Genesis speech is wisely taken for granted Adam just simply gave names to the animals The author of Genesis was right, and so were the founders of the Société de Linguistique when in 1866, they banned speculations on the origin of language or the creation of ideal or universal languages In any case, the sort of phonetic habits suggested by

"tongue tracks" and mouth gesture as a basis of meaning would not be human speech as we know it either in savage society, or in the remoter historical past No idiom known to us gives us any impression of language in a primitive form And we are certainly not getting any nearer either to the primitive or the truth by attempting to link meaning and "tongue tracks" in ancient Chinese and the language of Sumer It is true Sweet thought "primitive speech was partly made up of gesture," and suggested that "many symbolic roots" might have arisen by "lingual gesture," quoting the Latin *bibere*, to drink, as an example 'the lip consonant *b* symbolizing the action of the lips in drinking', but in spite of this extra witness, whose name, strangely enough, is not mentioned in this book, judgment will be reserved

It is curious that so practical an experimenter should be tempted by friends into the unfamiliar fields of Sumerian, Ancient Chinese, and Japanese, and even of proto-Polynesian, which is not a form of speech at all—an unexplicable flight from the realities of his problem

It is attempting the impossible to build a theory of language on the acoustic analysis of the constituent sounds of speech, and "gestural" introspection as an approach to meaning is deaf and blind to the obvious. The acquirement of Speech, as Head put it, is the verbalization of experience, and our phonetic habits, acquired through social education as a means of social adjustment, co operation, and control, are part of our common social life, and the criss-cross pattern or network of these habits is part of the pattern of experience. In the primary speech situation the meaning of the sounds is the part they play in the social situation.

As we have seen, this gesture theory is the link between the author's acoustics and his observations on the nature, origin, and development of speech. And both acoustics and the gesture hypothesis are the basis of his conclusions as to the purpose and possible improvement of Human Speech—(or does he only mean the Voice?)

Our present (*sic*) methods of symbolizing thoughts by the gestures of articulation which we call speech have all grown up out of hand.

He believes we could improve 'the technique of thought,' and even arrive at "a perfect method of symbolizing human thought," by practising an improved technique of pronunciation based on the theories put forward. Eliminate homophony. Adopt the principle of 'one thought, one sound.' Lay down simple rules for intonation. Eliminate breathed sounds following the example of pure *Zummerzettel*, and use stress to separate words from one another. And the result would be something like the speech of Robots, only much more primitive.

The characteristics of pronunciation are determined by social education, and most sociable people would prefer the admiring attentions of the wicked phoneticians described on page 193 to Sir Richard's drastic orthophonics. In the primary speech situation, meaning is as much a property of the situational context of people, things, and events, as of the sounds made by the speaker. The sounds are important, but not nearly so important as purists and those who have sacred languages believe. It is curious how almost the whole history of phonetics is associated with sacred languages. First the Hindus and Sanskrit, then the Arabs and the language of the Holy Quran, much later things like pure French, the best High German, and Standard English—and now a sort of Somerset Esperanto.

Nowadays Phonetics is regarded as one of the social sciences. Many people think it is a branch of pedagogy or typography. It can be usefully applied in these and in many other ways, but phoneticians themselves would hesitate to apply their technique to special propaganda however well intentioned.

One would have thought the bewildering variety of human noises sufficient argument against mere phonetic "improvement." And language is too vital a thing to be straight-jacketed. Speech may be standardized when we standardize ourselves. Nevertheless, everyone who has a professional interest in the Human Voice should read this book. It will be well received, and deservedly so, by elocutionists and singers. Phoneticians and linguists will find much of value in the acoustic chapters, presented in a fresh and interesting way quite unusual in books on this subject.

There are one or two points of detail in these otherwise excellent chapters that must be mentioned. If gramophone records of the artificial vowels produced by the models could be made, accurate analysis of these sounds would then be possible. The author does not appear to use the terms *voiced*, *breathed*, *unvoiced*, and *whisper* with any technical intention (pp. 36, 117, 123). The confusion is increased by the use of "whispered voice" on page 120, and the expression *voiced f*. And it is not clear that we are to distinguish between a

"p" and a *whispered p* Connected with this is the very debatable question of the function of the false vocal cords Any movement on their part is probably a by-product of the essential movements

Of the 78 pages of Appendices, 35 are given up to the reprinting of Dr Rae's seventy year-old article on Polynesian languages, the value of which even as support for the author's gesture theory is not at all evident

If students of psychology and language find the linguistic chapters naïve and fanciful, they have their answer on page 171. "For flights of Fancy we are all born fully fledged, but most of us moult early, and our first gay plumage is not renewed Those who do not moult, are plucked before their education is completed 'It is unfortunate for the author that 'the shades of the prison house' will have closed on most of his intelligent readers, and those who have not been plucked won't read *Aesthetics*, even when presented as brightly as in this book

J R FIRTH
STEPHEN JONES

The Fallacies of Fatalism, or, The Real World and the Rational Will By
CHARLES E HOOPER (London C A Watts & Co 1930 Pp xi + 211.
Price 10s 6d net)

This book would offer "a challenge to Determinism from a critical-realistic point of view The challenge is based on a tentative re-examination of common knowledge relating to the physical world and to the human mind and human society" It would reject not merely psychological, but physical, Determinism, and quotes with approval Professor A S Eddington to the effect that "physics is no longer pledged to a scheme of deterministic law" But it cannot follow Professor Eddington in reducing entities to events "the space-time world is not all flux any more than it is all status" And substantial entities "have causal efficacy, and are not purely effects of causes external to themselves" "An entity is not wholly made by those antecedents which have contributed plus those conditions which do contribute to its existence It has a nucleus of substantial being, and helps in a very real sense to make itself." Moreover, an entity may be in respect of its essential nucleus not merely self-caused and self sufficient, but it may also remain impervious to external influence Reality is pluralistic, and "the chain of events proper to one locality has no effect on the chain of events occurring in a relatively remote locality The linkings between separate chains which do occur from time to time are . . cases of properly contingent causation" If, then, the chain of causation within a physical entity may exist independently of other chains of causation—a view which the author seems to assert rather than to prove, and which he does not render obviously more acceptable by his patient description of the various entities and *external relations which go to constitute his pluralistic reality*—it would seem to follow that *a fortiori* must the chain of causation within a physical entity be able to exist independently of other chains of causation

The author would thus appear to be arguing not for "free will of indifference," but for freedom as "self-determination," a determination of the self by the self In assuming as obvious that a person must always act upon some strongest motive, the psychological Determinist also assumes, quite gratuitously, that a person can take no part in forming or modifying his (or her) own motives I hold that he can " From a Free-volitionist point of view much allowance must always be made for hereditary defects and bad environments, which powerfully tend to produce criminals, but that a non lunatic criminal can

be produced wholly without fault of his own the Free-volitionist refuses to believe " The Free volitionist is repugnant to Determinism if for no other reason than that the doctrine "is on the whole demoralizing, because it tends to shift responsibility from ourselves to the universe, at the same time paralyzing the will to reform one's conduct, when that is needed "

The present reviewer cannot in this agree with the author. Determinism, if true, need not depress the individual in his efforts to modify and create, for Determinism declares no particular certainty with regard to the future. On the assumption that X having followed Y, therefore X *must* have followed Y, we still cannot be sure that if X_1 then Y or Y_1 , for X_1 is not identical with X, the postulate of necessary connections between terms permits us only to recognize the inevitable in the past not to anticipate with assurance the inevitable in the future for we cannot be certain that the term of a connection is ever precisely repeated. That a man who has allowed himself to get habitually drunk for thirty years will behave similarly for the rest of his life seems highly probable, his future is determined by his past, and yet it is not impossible absolutely that he should suddenly resolve, and abide by his resolution, to remain henceforth sober. We do not know for certain *how* a man's future is determined by his past. And just as it may be useful to postulate determinism, so it may be useful not less to assume that not every repetition of an act must necessarily mean a habit, and that even habits may be broken.

Moreover, if it is true that the author interprets freedom as self-determination, why does he seem to quarrel with the deterministic view of punishment? The determinist urges first that if reward and punishment are to be applicable at all, then there must be causation and continuity at least within the psychical entity to be rewarded or punished, if, then, he proceeds to postulate further that in fact particular causal chains are all interconnected with one another, he is not to be taken as therefore acquiescing in all things as they occur independently of his efforts to redirect them, as acquiescing, therefore, in wrong-doing, and as holding, moreover, as an implication of such acquiescence, that it cannot ever be right to punish the wrong-doer. "If society punishes him, it is either to prevent his repeating his crime or to deter others by a salutary example. That, of course, is the modern scientific Determinist's theory of crime." This seems a sound justification of punishment, and I cannot see that the author suggests a better one when he says that "the Free-volitionist holds that it is as proper to blame wrong-doing and to punish serious crime severely as to praise virtue and, where possible, recognize notable merit by public honours." Surely the Free-volitionist who is also a Humanist would not inflict punishment for punishment's sake, would give pain back for pain received only on the assumption that punishment may possibly be efficacious for preventing or reforming or deterring?

The Determinist does not hold that "he himself had no part in forming his own character"; he regards himself as in and of Reality, and so as determined by himself not less than by the rest of Reality, he is as necessary to Reality as Reality is to him, Reality is as bound up with him as he is with Reality. Determinism as conceived thus frowns on individual bumpiousness in moments of success, and deprecates a futile self laceration at moments of evil and failure. It does not condemn finite effort, for it does not deny that moments of individual striving are as real as anything else, it would simply give to everything its place, and not more than its place. In our dealings with others it is productive of pity and charity. It helps us to find order and system in our environment, to look on all things with wonder as to the power, but not with surprise as to the occurrence. We cannot but accept it if we would have a cosmos and not a chaos.

The book is clearly written, and it contains a glossary of technical terms which not only casts illumination on the book, but is valuable as suggesting topics for further reflection. Perhaps the book would have been more successful than I think it is in exposing the "fallacies of Fatalism" had it directly concerned itself with this question by the method of dialectic, rather than by a positivistic description of "the Real World and the Rational Will."

M KAYE

The Child's Conception of Causality By JEAN PIAGET, D Sc (London: Kegan Paul, Trench, Trubner & Co 1930 Pp viii + 309 Price 12s 6d net)

This is the complementary volume to *The Child's Conception of the World*, but the method of investigation followed is not as before purely verbal. Children attending the *Maison des Petits* were questioned about the 'how' and 'why' of this and that, and they also had simple experiments performed before them, and were asked to explain why such and such a thing happened, or to predict what would happen, and after the experiment to explain why it had happened.

The first section of the book is devoted to the child's explanation of movement. The teacher claps his hands together or squeezes a rubber ball with a small puncture directing the current of air towards the child's face. 'Where does the air come from?' "What makes the air?" he asks the child. A penny is placed in a lid to which a string is attached and the lid is swung round and round in a vertical plane. "Where does the air come from?" "Why doesn't the penny fall out?" The child is questioned on the movements of the clouds and the heavenly bodies. He is asked about the waves on the lake, why the water flows in the river, why a book falls if not supported, why a toy balloon rises.

As in his previous investigations, M. Piaget classifies the children's replies on a basis of age groups, and from the character of the answer arrives at conclusions about the children's explanation of movement. In the first age group (average five years) the answers are said to indicate an animistic view. 'The child fills the world with spontaneous movements and living forces', the heavenly bodies may rest or move as they please, the clouds make wind of themselves (p 114). In this group and in the second group (average age seven years) there may be both animism and artificialism. The waves are made for 'boats and swimmers'. 'The sky made the clouds because it is a good thing to have some'. The artificialism may, however, in the second group be transferred to objects. Rocks and pebbles are occasions to call forth the spontaneous movements of the waves. There is thus both an internal and an external motive force. At this stage argument may appear circular. The waves make the wind and the wind makes the waves. In the third stage (average nine years) teleological explanation is in the background, the child assigns a physical dynamic explanation. 'The river flows, 'because the other water which comes after it pushes it'. A book falls 'because it is heavy'. A balloon rises "because it is light". "Heavy" and "light" are absolute qualities. "Weight implies a latent force which is both thrust and resistance" (p 113). It is only among the fourth group (average over nine years) that a mechanical explanation is found.

In Section II prediction and explanation is studied. The children were asked to predict and subsequently to explain the floating or sinking of bits of wood or glass or of pebbles, the change in the level of water on the immersion of solid bodies and the shadow cast by a given object in a given position. The same general type of grouping was found.

Moral explanations of why characterize the youngest group. This has floated and this has sunk because the boat is cleverer than the stone.

It will lie there because it must. Dynamic reasons are given by the next group and explanation dominates prediction. If events prove prediction wrong the child will readapt his explanation. In the third group weight is given as the reason for floating or sinking. Heavy bodies sink, light bodies float. The weight is taken as an absolute quality. If then a body called 'heavy' is found to float fresh reasons are sought in size, shape, movement. With the oldest group the correct explanation is given and prediction and explanation harmonize. The child proceeds from dynamic to mechanical causality. (p. 173) The same line of progress is found in the two other problems, water levels and shadows. Piaget notes that here practical intelligence outstrips theoretical. The child will predict rightly before he can explain correctly. In the case of shadows Piaget calls attention to the type of explanation which Lévy Bruhl says rests on participation. The shadow is said to emanate from the hand from the tree from the corner. These sources of shadow are not compared together but superposed; there is no true generalization as to cause of shadow.

Section III is an examination of children's explanation of the movements of machines. A bicycle was chosen as a machine wherein all parts are visible. The child was asked questions with a bicycle before him. He was also encouraged to draw a bicycle and to put together a cardboard model. The explanations given are classified into four age groups as before. A child in the youngest group names any bit of the whole machine as the cause of movement: the lamp, the brakes. Children of the second group name certain parts as necessary, but there is no attempt to relate these to the other parts. The third group sees the action of the separate parts. Children in the fourth group give the correct account of the machine. The children were also asked questions about a model toy engine having a boiler heated by a spirit lamp. For the first group the fire or smoke or air were the cause of the movement in the driving wheel. No interest is shown in the connecting parts. In the second group the water is picked out as essential and the process is conceived dynamically: the water moves and so pushes the rods which push the wheel. In the third group steam is the essential feature—steam pressure is interpreted as impetus. Only among the older children do ideas of accumulation and volume appear. As an outcome of his inquiry M. Piaget would claim that there is synchronism between the age at which there is a correct interpretation of machinery and the age at which the child's attitude to nature changes: mythological artificialism gives place to technical artificialism. He considers that it is progress in the knowledge of machines that produces progress in the child's attitude towards nature.

In the concluding section VI Piaget draws together the data of this book and its fellow *The Child's Conception of the World*. He also considers them in relation to the two earlier books on child's thought and reasoning. His problem is the relation between the mind of the child and the external world. He accepts the world as the scientist knows it as Reality. He declares that the relation of the child to the external world is the biological problem of the relation of the organism to its environment. Is the organism moulded by its environment or does the organism assimilate the environment? He uses for these alternatives the labels 'empiricism' and 'pragmatism' and suggests that the answer has value for epistemology. What is found to be true by the historical method may be brought into relation with epistemological analysis.

He claims to have detected in the child's conception of reality three

simultaneous directions of thought, from realism to objectivity, from realism to reciprocity, from realism to relativity. At first there is no distinction between "I" and the world, even when separation begins, the world is still conscious and the self is still material. Magical beliefs, animism, artificialism, the belief in final causes, the conception of force as internal energy, mark the links between the earlier and later view of the objectivity of the external world. At the same time the child begins to realize the point of view of others, reciprocity. Closely connected with this is a growing relativity, a realization of the bearing of one perception on another and of other people's knowledge on his own. The child ceases to be ego-centric. "The substantialism of perception is replaced by the relativism of intelligence." The child is nearer to reality than the adult in that each perception is reality; he is phenomenalist, yet he is further from reality in that he fills the world with animistic forces. Piaget concludes then that the child's conception of reality shows the influence of both the empirical and the *a priori*. From analysis of the children's answers, Piaget finds seventeen different conceptions of causality within the three main stages of the child's evolution towards the scientific notion. From being psychological, finalistic, and magical, the conception becomes animistic, artificialistic, and dynamical. Then, as animism and artificialism disappear, dynamism becomes mechanism. The notion of cause is thus "desubjectified," made to include temporal sequence and, finally, reversibility. It is not empirically determined, nor is it an *a priori* conception.

M. Piaget finds the origin of the child's notion of necessity and law in moral necessity and moral law, universality has no place in it, exceptions are freely admitted. Obligation has its roots in obedience and in the authority of parents. The recognition of regularity and universality only arises later.

In *Judgment and Reasoning in the Child* M. Piaget claimed that the logic of the child was different from the logic of the adult. The logical forms which he there described he now brings into relation with the present investigations. So long as the child has not distinguished between "I" and the External World his thinking is "autistic," dreaming. When his view of the world is phenomenalist and his conception of causality magical, his reasoning is by transduction. When he advances to a more objective view of the world, and from an animistic to a physical dynamic conception of causality, he will reason by the logic of classes. Only when he reaches a purely objective view of the world and a mechanical conception of causality can he use the logic of relations. These considerations lead M. Piaget in his final paragraphs to propose to himself the question, "Is it the real content of thought that fashions the logical form, or is the converse the truth?"

In evaluating this book one may weigh it in two scales. One may take it as a study recording children's behaviour under certain conditions, and find it, like its predecessors, a mine of interest and information. Even if one criticizes the method used, deprecates the stress on words and lack of practical tests, the book will none the less be one of first rate importance to the psychologist. But one may also take the book with its predecessors as presenting a theory of mental development and a theory of knowledge, then the books raise bigger issues and call for more serious criticism. One may ask whether the theories set forth in Section IV as conclusions are not largely presuppositions. M. Piaget charges the child with using mythological conceptions. May one not bring the same charge against M. Piaget? One suspects that he brought ready-made to the interpretation of his data the sociological doctrines of Durkheim and Levy-Bruhl. One could wish that he had made a more critical analysis of the situation presented to the child.

by his question before confidently asserting on the basis of the child's reply that there was a magical or ego-centric outlook. In animal psychology the experimenter has had to learn that the situation for the animal is often different from that intended by the experimenter, the same lesson has to be learnt in studying children.

M. Piaget equates the psychological and the biological point of view too lightly. The child as knower in relation to reality cannot straightway be paralleled with an organism in relation to environment. This false parallelism seems to be responsible for the confusion about the matter and form of knowledge. Experience of extra-organic origin figures as "matter" and experience of intra-organic origin as "form". The organism is treated as the repository of inherited pre-relations and pre-notions. Such an interpretation of matter and form is far removed from the epistemological distinction. A confusion about logical form seems to run through M. Piaget's doctrine of the evolution of children's conceptions. Reality having been equated with the external world as known to the scientist, logical forms are identified with the typical ways in which the scientific adult does his thinking. Even if we could credit the scientific adult with a consistent conduct of his thinking on lines which the logic of relations would find beyond criticism, there would be room for ambiguity in identifying the typical ways in which the scientist thinks with logical forms. It is easy to confuse the character of the actual thought processes in a given individual, forms in the psychological sense, with the logical characteristics of those same forms. In spite of statements to the contrary, this is what M. Piaget seems to have done. There is development in the child's thought. *What* he thinks and *how* he thinks are reciprocally related to each other as being psychologically matter and form. In comparison with the adult's knowledge of the external world the child's knowledge is defective, for his data are limited and his analysis of them inadequate, *how* he thinks will reflect the defects of *what* he thinks from and *what* he thinks to. Moreover, he has little selective control over imagery and little command of language wherewith to express and fixate his thinking and to render his thoughts readily available. Thus his thinking both in matter and form is far behind that of the adult. But does that entitle us to say that it is lacking in logic? It will if we identify logical form with the psychological form of adult thinking, but not otherwise.

M. Piaget says the child has no conception of logical necessity. We may agree that he has to build this like other conceptions, but, and this is a different question, does his thinking show no signs of logical necessity? Is not every effort at explanation a testimony to the logical necessity of thought? When Veru, aged six, gives what M. Piaget terms a *moral reason* for the floating of a boat, viz., 'It does do what it ought not to do' (p. 136), the reason may be thoroughly bad, but may it not be a logical reason for the speaker? For the adult there is no logical necessity in the argument "The wood will stay on the top because it is big," but for the child bigness may have a bearing on floating which gives a logical character to his thought, "the wood will stay on the top." In the readiness with which a child changes his "reason" M. Piaget finds evidence that law of contradiction has no place in the child's logic. But one might protest that this very change of reason, when, for example, he finds that his big object sinks, is evidence that the child experiences an *intellectual obligation* to find some explanation. Moreover the child will not contradict himself about something he understands, and even when he contradicts himself in words, he will not do so in his actions (cf. 'Children's Thinking,' V. Hazlitt, *British Journal of Philosophy*, vol. x p. 357). M. Piaget himself declares of his children that "when one

leaves the field of verbal inquiry . one is astonished at the wealth and constancy of their ideas" (p 133) Ought not M Piaget to be astonished that though a child of five cannot tell him how a bicycle works, even a child of three will not have any difficulty in riding a fairy tricycle He will not sit still and wait for the 'lamp' or the 'brake' to make it move His practical reason tells him how to set up in the pedals the movements essential to backward or forward progression

A research which may well make us cautious of identifying form with either the psychological form or matter of thought is M Meyerson's book, *De l'Explication dans les Sciences* He shows that in relation to their data the theories held by scientists in the past were as rational as the theories held by the scientists of to-day The study of the evolution of the child's conception of the external world and of causality is a study in genetic psychology, and one full of value, but the gap between this and the critical method of epistemology is very real M Piaget is influenced by M Brunschvicg in his belief that it can be bridged by the researches of anthropology and sociology This exposes him to the danger of offering sociological conceptions in situations which call for psychological analysis

BEATRICE EDGELL

The Progress of Life A Study in Psychogenetic Evolution By ALEXANDER MECK, D Sc (London Edward Arnold & Co 1930 Pp viii + 193 Price 10s 6d net)

Professor Meek's book appears to represent a reaction against the modern germ plasm hypothesis of heredity and evolution Put somewhat crudely, this is that the 'organization' of the germ cell about to develop is made up of elements, or quanta or 'genes' Some of these genes are, so to speak, loose in the organizational mechanism, so that when sexual conjugation occurs they can be assorted or reassorted in various combinations The ranges of reassortments are limited (1) because sexual reproduction ordinarily occurs only between animals whose morphology does not differ greatly (between different breeds of dogs, for example or different breeds of cats, but obviously not between dogs and cats), and (2) because groups of 'genes' become integrated Somehow "mutations, that is, new kinds of "genes," originate hence there is evolution, and not a continually reshuffling of the same developmental elements Of late years this hypothesis has been exhausting itself in trivialities, and is experiencing the fate of all lines of research that become fashionable and, by and by, lose their elasticity

Geneticists admit that the influence of the environment ("external factors") is necessary for the appearances of bodily characters, but that, apart from the genes ('internal characters'), there would be no development of characters Nevertheless genetics emphasizes the importance of the genes Professor Meek would insist on the importance of the environment *plus* the psychic factors There is a psychogenesis which is responsible for what an animal becomes, in body and behaviour, in the process of its whole life-history, and particularly in its earlier phases There is a developmental mechanism in the ovum which is undergoing embryogenesis and in the young animal launched out into the world But there are also the conditions of the world, and there is a mental mechanism which has effect in morphology, functioning, and behaviour

Thus there is a mechanism of speech in the human infant—an affair of larynx, tongue palate, gannhonic centres and their connections, afferent and efferent nerves, etc All this may be regarded as the result in develop-

ment of genes just how genetics has hardly any notions. But there is also a psychical mechanism associated with the environment. 'Wolf children' are those that have been brought up from pre speech phase with wolf nurses and in the cases of human beings that have had such an up-bringing the power of speech has been lost beyond recovery. That is apart from the exercise of the psychical factor in imitation and nurture, the bodily mechanism does not function. Perhaps sporting dogs may give instances of similar development. Their particular behaviours undoubtedly depends on something inherited nevertheless such dogs must be broken or psychically developed and the hereditary equipment and the environment are inadequate to give a good gun dog if the puppy has not been trained. And as in the case of the wolf children potentialities of development disappear after a certain phase (of psychogenesis) has passed without the indispensable training.

Plainly an enormous field of fact particularly in human biology, lies altogether outside the narrow bounds of genetics the methods of which have now become inadequate. To recover an elasticity of method seems to be imperative in modern biology as applied to human evolution at all events. Thus is the motive of Professor Meek's book. It is marked by originality of thought and much distinction of expression and it is strongly to be recommended as serving to widen the scope of biological method.

JAS. JOHNSTON

The Process of Learning By CONSTANCE BLOOR M.A. (London: Hegan Paul Trench Trubner & Co. 1930. Pp. xii + 284. Price 7s. 6d.)

The Process of Learning is as those familiar with the writer's earlier work on *Temperament* would be prepared to find a very able and well balanced piece of work. In a book of comparatively small compass Miss Bloor succeeds in giving to the teacher practically all that is relevant to his needs in the psychology of to-day. She not only presents the psychological facts and hypotheses but she shows how and to what aspect of teaching they are relevant. The title of the book may possibly suggest to some readers a much more restricted field than it actually covers because there has been a tendency to think of the learning process in terms of methods of learning as studied in the psychological laboratory. Miss Bloor's book deals however, with the whole of psychology in relation to education which is the process of learning.

Part I consists of twelve chapters on the psychology of learning including a genetic introduction as well as the treatment of remembering, forgetting, reasoning and theory of ability. Part II deals with character and discipline, and has an appendix on the instinct controversy. The last chapter of Part II briefly reviews the changes that are being made in school organization in their relation to the life of the adolescent. Throughout the different subjects of discussion Miss Bloor has been extraordinarily successful in suggesting the fluid state of present day psychology, and she has done it in such a way as to make the student realize the attraction of a science that is growing under his very eyes rather than to feel hopeless over the small amount of established fact.

Chapters XI and XII which give a very clear and intelligible account of mental testing and of the theory of ability will be particularly welcome to an even wider public than that for which the rest of the book is designed as the subject is of very general interest and is usually expounded with so much technical detail that the lay reader is unable to discover the common sense of the matter. In thirty pages Miss Bloor makes clear the essentials and shows their bearing on school organization. The only section that struck

the reviewer as disappointingly meagre was the one on performance tests. It is a subject that has several significant aspects for the teacher. Perhaps, however, as we have so few standardized performance tests and not a single picture completion test perfectly adapted for use with English children, the writer did not consider that it was worth while giving much time to the subject in an elementary treatment.

The happy way in which Miss Bloor brings the results of recent psychological research to the solution of classroom problems may be illustrated from her references to animal psychology. From this material she shows in very telling fashion the importance of *successful practice*, of incentive, of reactions to relations, and the co-ordination of units in learning. She also uses Kohler's experiments to suggest the continuity of the process which is revealed in the ape's and the child's invention of simple tools in the solution of concrete problems, with what is traditionally called reason. She manages to give the gist of all this work without loading the student with unnecessary detail or distracting attention from the main theme.

No one who has attempted to write or to lecture on psychology is unaware of the difficulty of deciding the order of treatment of the different subjects, or has escaped the feeling that some other order than that actually adopted would have been better. One is therefore diffident about criticizing the order adopted by a writer. It does seem to the reviewer, however, that had the chapter on the simplest units of character and some treatment of instinct come earlier in the book, facts and theories with regard to the process of learning would have been more intelligible and more vital. Miss Bloor is keenly aware of—

- (a) the difficulties of the theories of instinct,
- (b) the problem of the relation between interest and instinct,
- (c) the difficulty of getting children to learn what is uninteresting but necessary to them, by an appeal to instinctive drives.

She is consequently careful to avoid the suggestion implied in many recent books on educational psychology that the teacher has only to know McDougall's list of instincts in order to solve all his problems of interest and of drive. The scientific integrity of this attitude is of unquestioned value, and if the book were to be read only by people who have realized the change wrought in psychology by the theories of conation of libido, of instinct, there would be nothing further to say. But the majority of young teachers have not this background, and for their sake one would have welcomed a more vivid contrast between the psychological value of work done from necessity on the one hand, and of work done spontaneously on the other. Such a contrast is implied and recognized by Miss Bloor in several different connections, but it is nowhere given the force that it requires in order that it may affect the practice of those engaged in teaching.

The book is clearly written, and except perhaps in one or two brief references to Gestalt Psychology should be easily intelligible to the average reader. The reviewer noted some printing errors (e.g. pp. 129, 199, 205), but nothing that would cause misunderstanding except on p. 94 (foot) where the words stimulus and response seem to have changed places.

The Process of Learning should prove invaluable as a textbook for training college students and as a "refresher" course for teachers who have not been studying psychology recently. It would also serve as a very good introduction to the subject for the lay reader, especially as it has at the end of each chapter a short list of references to the most important recent work on the various subjects.

V. HAZLITT.

Johannis Wyclif Summa de Ente Libri Primi, Tractatus Primus et Secundus
 Edited by S. HARRISON THOMSON, Ph.D., B.Litt. (Oxford: Clarendon Press, 1930. Pp. xxxvi + 119. Price 10s. 6d. net.)

Dr. Harrison Thomson has begun an edition of the unpublished tractates of Wyclif's *Summa de Ente*, by publishing the first and second tractates of the first book *Johannis Wyclif Summa de Ente Libri Primi Tractatus Primus et Secundus*. He proposes to follow up this work with an edition of the fifth and sixth tractates on universals and time. The third and fourth tractates of Book I were edited, with two tractates from Book II, by M. H. Dziewicki in 1909 for the Wyclif Society.

The first tractate deals with being in general, and gives us Wyclif's theory of knowledge. The second deals with first being or God, and shows Wyclif's indebtedness to St. Anselm, whose logical arguments for the existence of God had not found favour with the greater scholastics. Wyclif relied mainly upon Aristotle, St. Augustine, and St. Anselm. His argument is concise and not very obscure, and the arrangement, on familiar scholastic lines, is clear. Students of mediæval philosophy will welcome Dr. Thomson's edition, for it makes accessible an important text in the development of thought at Oxford after Bradwardine.

The editorial work has been carefully done. The tractates survive in two manuscripts, both of which have been studied by the editor of other writings by Wyclif. Dr. Thomson prefers the MS. of Trinity College, Cambridge, to the Vienna MS., although Loserth and Dziewicki regarded the former as careless, and Beer praised the latter. An editor of difficult texts like these may be saved trouble by the loss of manuscripts, but he cannot feel very safe if he has only one or two descendants of the original to follow. So far as one can judge, Dr. Thomson has made out his case that, so far as the two tractates are concerned, the Cambridge manuscript is to be preferred. He has of course not followed it slavishly.

The summary of contents and the careful indexes are most helpful. The more general part of the introduction is not so satisfactory. Dr. Thomas would appear to agree with Dr. Rudolf Beer that the *De Ente Praedicamentali* is an integral part of the *Summa de Ente*, but he does not explain his views. Beer makes the *De Ente Praedicamentali* the fifth tractate of Book I. Thomson obviously does not. Considering that since Beer's edition of that much discussed work in 1891, Dr. Thomson is the first student of Wyclif who has dealt minutely with the structure or contents of the *summa*, it is unfortunate that he has omitted any discussion of the *summa* as a whole. Nor does he give us any information about the date of the work and its relation to Wyclif's other writings, beyond a reference to an earlier essay published in Prague, which is not easily accessible. Again, Dr. Thomson should make himself better acquainted with the extensive literature on mediæval texts. In his introduction (p. xix) he states that Grosseteste has been quoted, when the text has been available, "in the Venice 1504 folio." But Wyclif only cites Grosseteste twice in these two tractates, once on the Posterior Analytics, once on the Physics. For Grosseteste's Physics Dr. Thomson refers to a *summa* on the Physics "cum expositione Sancte (sic) Thomae," printed at Venice in 1498 (p. 104 note), a volume which he has not been able to use, but cites from Hahn. He is not aware that the printed work ascribed to Grosseteste is not now regarded as his, or that the problem of Grosseteste's work on the Physics is very obscure. I cannot follow him in the strange sentence, "Wyclif used Aristotle, Boethius and Porphyry in the current translation of Averroës." It is incredible that Dr. Thomson means what his words mean as written.

F. M. POWICKE

De Electione Gratiæ and Quæstiones Theosophicæ By JACOB BÖHME, with a biographical sketch by DR H A FECHNER Translated from the German by JOHN ROLLESTON EARLE, M A (London. Constable & Co 1930 Pp lxx + 325 Price 10s 6d)

That strange genius, Jacob Böhme, claimed by turns by the philosophers and the mystics, is apt to turn out on closer acquaintance a somewhat embarrassing ally for members of either class. It is true that such diverse minds as William Law and William Blake, Hegel and F D Maurice, have obtained from him genuine inspiration and enlightenment, equally true that the occult mysticism of the eighteenth century, and the obscure German sect which still makes use of his Apocalyptic prophecies, faithfully represent the less fortunate aspect of his teaching. Dr Fechner is probably correct in saying that "the Centre the Source of the whole of things, drew all his yearnings and fibres, and therefrom his reflection proceeded." But he is also justified in warning the enthusiast that Böhme's meditations often bring us to a point at which "understanding ends for any other ear than the sharp-pointed organ of the theosophist."

Thus we seem to be confronted by a genuine case of metaphysical genius—for no one who reads Böhme with sympathy can resist the conviction that he did sometimes gaze into the very ground of things—which is unfortunately combined with considerable psychic instability, and as regards expression obscured by the symbolic language which he borrowed without criticism from alchemy theosophy, and other by ways of seventeenth-century thought. In estimating the content of his vision, therefore, the seer's psychological peculiarities and cultural limitations must ever be borne in mind.

To the first of these causes we may perhaps refer Böhme's intense consciousness of a cosmic dualism, reflecting the conflict of which he was so vividly aware in his own nature. Convinced, like most mystics, that an identical principle runs through the universe, he attributed to the whole natural order the "powerful contrarium" the struggle between the good and evil will which, like St Paul, he discerned in his own inner life. "His ego would have unity, and rested not until the whole world had been forced into the one idea of God by the immense but uncultivated power of his own mind. Nature and the human soul, as direct revelations of contradiction, were the objects of his contemplation. These words, illustrated by the numerous autobiographical passages in his writings, give us a better clue, I believe, to the true character of Böhme's revelation than the elaborate interpretations of his more reverent commentators. As to the second point, the unfortunate part played by his lack of culture, the influence of the theosophic circle from which his first disciples were drawn, and his omnivorous but indiscriminate reading of Paracelsus, Weigel, and the works of the alchemists, there is a general agreement among students. As with most authors who claim direct inspiration, the instructed reader will find in him countless reminiscences of earlier writers, not excluding the great theologians of the Roman Church. He is, however, best and most convincing when least doctrinal and most naïve. Mr J R Earle, whose admirable translation of *Six Theosophic Points* earned the gratitude of all Böhme students, offers us in his new volume two of the "toughest" of the shorter treatises. Their main appeal must be to specialists, or at least to those already familiar with Böhme's thought. In Dr Fechner's essay, however, we have a study of real value, correcting common misconceptions at many points. It will take its place among the few monographs that really help us to understand one of the strangest personalities in the history of Christian mysticism.

EVELYN UNDERHILL

NEW BOOKS

- The Logic of Religious Thought* An Answer to Professor Eddington By R GORDON MILBURN (London Williams & Norgate 1929 Pp 165 Price 6s)
- Essays in Christian Philosophy* By LEONARD HODGSON, M A, D C L (London Longman's Green & Co 1930 Pp vi + 175 Price 9s)
- Man and The Image of God* By Hubert M Foston, D Lit (London Macmillan & Co 1930 Pp 228 Price 7s 6d)
- Immortality An Old Man's Conclusions* By S D MCCONNELL, D D, LL D D C L (London and New York The Macmillan Co 1930 Pp 178 Price 6s 6d)
- The Soul Comes Back* By JOSEPH HERSCHEL COFFIN, Ph D (New York The Macmillan Co 1929 Pp 207)
- Nature Cosmic, and Human and Divine* By JAMES YOUNG SIMPSON (London Oxford University Press, Humphrey Milford 1929 Pp ix + 157 Price 6s)
- The Present and Future of Religion* By C E M Joad (London Ernest Benn, Ltd 1930 Pp 224 Price 10s 6d)

'Have you any system of inference from mystic experience comparable to the system by which science develops a knowledge of the outside world?' asks Professor Eddington. Mr Milburn has set himself the task of replying to that question. He wisely does not set himself the task of constructing such a logic. As well might the worm ask the butterfly if he has any system of burrowing comparable with his and if not how he can possibly move? Pascal never suggested a logic of his famous reasons of the heart. Yet to presume that logic, as we understand it, and science as we practise it, measure the real and the true between them, is as gross an anthropomorphism as ever was believed. The question is whether logic is not a question-begging term to use in connexion with religious certainty. Mr Milburn holds that an objective science of spiritual truth is in process of formation, but as yet incomplete. His essay is a contribution to it. He faces a number of old problems from a fresh angle, but to pursue the hope of an objective science of what is personally demonstrated is as if the lover aimed at objective demonstration of the raptures of his love.

Mr Milburn is too fond of ugly and needless technical terms, 'theoid' 'subterpressed' "deconscioused," "prosopon," and transgresses in such as this "Theoid experience is biologically functional in that it is a mechanism which the psyche has evolved as a means to its own health and well being." Then, as if with a sense of his misdeeds, he adds in brackets, "It is God that works in evolution." Why not leave it at that? It would be unfair to stress such blemishes, however, and detract from the fact that Mr Milburn makes a useful contribution to an important matter, and if a science of values is likely to prove a dream, he at least has helped to treat some religious values in a scientific manner.

Dr Hodgson uses the term philosophy in a popular rather than a strict sense, for he does not offer any systematic exposition of Christian philosophical implications but gives some miscellaneous and very readable essays on all sorts of topics from original sin to birth control. His standpoint is that of a liberal minded member of the Anglican communion, and if we may take him as representing the American branch of that Church, we may be glad it is so well represented. Naturally, most readers will wish to cross swords at times with a writer who discusses such controversial matters, but Dr Hodgson is a partisan who has the happy art of saving provocative things in an unprovocative way, and keeps our sympathy even when he does not carry our judgment.

which I think Mr Joad himself belongs—those who do not understand Mr Joad! Not because he is obscure, far from it, but because Mr Joad really has not made up his mind what religion is, which is a pity in a prophecy about it. Sometimes one thinks Mr Joad identifies religion with early Victorian orthodoxy in the manner of writers of sensational articles in the Press. He still lives with the 'Science versus religion' outlook as it was in Huxley's day. He actually says the Church would ban scientific experiment and discovery, if it had the power. He tells us that 'science' will probably "deliver the *coup de grâce* to organized Christianity within the next hundred years." I have too good an opinion of Mr Joad's abilities to take all this sort of stuff (and there is much more of it) too seriously. That is why I join the third party. Does Mr Joad believe this, or is he merely providing good copy? In the appreciation of mysticism, however, it is possible to take him more seriously, though if Mr Joad thinks that an emaciated creed such as he personally would acknowledge is to be the religion of the future, it does not reveal a great understanding of the requisites of religion as it has always been for the vast mass of mankind.

It is strange that no special qualifications seem to be needed for writing a book on religion. Certainly not any active connexion with any Church, nor a degree in divinity, nor even evidence of psychological, anthropological, or historical study of the forms of religious experience. On this topic knowledge seems to come by birthright, and to have qualification in any sphere is to be qualified here. Those who write on the present and future of the Labour Party, or Fascism, or psychical research, or medicine, are usually connected closely with the subject, or at least have given years of study to it. Religion and the weather are topics on which all men are expert. This may explain why one takes forecasts on both these subjects with polite scepticism. One does not think Mr Joad is likely to be a true prophet, but one is glad that the eternal fascination of religion has at least made him "also among the prophets."

E. S. WATERHOUSE

The Knowledge of Reality By WINCENTY LUTOSLAWSKI (Cambridge University Press 1930 Pp xvii + 203 Price 7s 6d net)

Mr Lutoslawski, who is well known in this country as a distinguished Platonic scholar, and as the author of *The World of Souls* and of *Pre existence and Reincarnation*, here presents a defence and exposition of Polish Messianism upon metaphysical grounds. The mere circumstance that such an attempt should be made is sufficiently interesting in itself, and the obvious charm of the writer's personality enhances the interest. It is further to be remarked that the author is more of a European than most English writing philosophers. Many of us in these islands may have heard of Terenzio, Naville, Benda, and Boström, but we are not very familiar with their works.

The thesis of the book is that "reality" connotes the spiritual conquest not only of "matter" or "sense," but also of emotional quiescent unity with the cosmos, and of an unduly self-sufficient voluntaristic personalism. Thus materialism (= sense presentationism), ultra-noetic idealism, together with pantheism, have to be overcome, and the men of will (= the voluntaristic personalists) must admit the reality of inspiration from the divine (= true mysticism) as well as their own 'sacramental transubstantiation' in the "active love" implied in participation in a "genuine group" or nation. This is Messianism, and although "a Polish Messianist would rejoice more to find the coming country in England *now* than to wait centuries before Poland realized the same ideal" (p. 145), Poland by its treatment of the Jews, and

formerly of the English Unitarians, as well as by a long succession of Messianistic writers, has shown the fittingness of its national spirit for the Messianist's task

For reasons which seem obscure, personal pre and post-existence are held to be a distinctive tenet of this metaphysics. So far as I can see, the arguments employed would prove the eternity, and therefore the pre-existence, of the Polish nation itself, and we should have the peculiar conclusion that a definite country between the rivers Oder and Dniepr, inhabited by my friends whose company I need for all eternity," existed before there was any Oder or any Dniepr

JOHN LAIRD

The Teaching of Karl Barth, An Exposition By R. BIRCH HOVLE, A.T.S.
(London Student Christian Movement Press 1930 Pp 286 Price 7s 6d)

The Barthian is the most widely influential theological school in Germany. This volume offers an account of its presuppositions, describes its distinctive features and offers an appreciative criticism of its method and views. Besides Barth himself, the founder of the school, his more lucid exponent Brunner is often cited. What is of interest to the readers of this *Journal* is the Barthian Attack on Philosophy with thus the third chapter deals. His theology demands the abandonment of the philosophical positions assumed during the previous centuries. 'Barth is always the theologian criticizing the philosophers and the theologians who allow their teaching to be determined by philosophical notions' (p. 57). For his appeal is always to the Word of God (the divine revelation) as conveyed in the Holy Scriptures. Yet he himself cannot altogether escape a philosophical standpoint. He leans on Plato and Kant to him Schelling and Böhm are an aversion, the latest school of philosophy Phenomenalism has supplied him with tools and is present to his mind when Schleiermacher and Schelling are the persons whose teachings are discussed. Barth is something of a neo-Kantian who tries to stem the new doctrines of Husserl and Heidegger' (p. 59). He cannot ignore philosophy, even in asserting the independence of theology, as based on revelation. The only comment which needs to be offered on this position is that theology cannot detach itself from the intellectual environment of the knowledge and the thought of any age.

A. E. GARVIE

Received also —

VARIOUS *John Dewey the Man and His Philosophy* Cambridge, U.S.A. Harvard University Press London Oxford University Press Humphrey Milford 1930 Pp vii + 181 10s 6d

By Members of Trinity College, Dublin *Hermathena a Series of Papers on Literature Science, and Philosophy* No XLV Dublin. Hodges, Figgis & Co London Longmans, Green & Co, Ltd 1930 Pp iv + 464 6s

G. F. STOUT M.A., LL.D., D.LITT *Studies in Philosophy and Psychology* London Macmillan & Co 1930 Pp xiii + 408 15s

HONOR M. DUBS *Rational Induction an Analysis of the Method of Science and Philosophy* Chicago University of Chicago Press London Cambridge University Press 1930 Pp xv + 510 21s

S. N. DASGUPTA, PH.D., L.E.S. *Yoga Philosophy in Relation to Other Systems of Indian Thought* Published by the University of Calcutta 1930 Pp x + 360

NEW BOOKS

- P S BASU, M A PH D *Bergson et le Vedānta* Montpellier Librairie Nouvelle 1930 Pp 147 Price 25 frs
- HOWARD H BRINTON PH D *The Mystic Ill Will Based on a Study of the Philosophy of Jacob Boehme* (Introduction by Rufus M Jones M A , D Litt) New York The Macmillan Co 1930 Pp xiii + 269 2 dollars 50
- EDWIN BEVAN M A *The Hope of a World to Come* London George Allen & Unwin Ltd 1930 Pp 63 2s and 1s
- KARL BÜHLER *The Mental Development of the Child* (International Library of Psychology and Philosophy) London Kegan Paul Trench Trubner & Co 1930 Pp xi + 170 8s 6d
- ERNEST BARKER LITT D D LIT LL D *Church State and Study* London Methuen & Co 1930 Pp vii + 280 10s 6d
- S S SURYANARAYANA SASTRI M A BSc *The Śrīadvaita of Śrīkantha* Madras University 1930 Pp x + 393 5 rupees 10s
- APPAYYA DIKSITA *Śrīadvaita Nirṇaya* With Introduction Translation and Notes Edited by S S Suryanarayana Sastri M A BSc University of Madras 1930 Pp 161 2 rupees 8 annas 4s
- MRS RUTH DAVIDS M A D LIT *Hundred Sayings of Buddhism* University of Calcutta 1930 Pp viii + 108
- S S SURYANARAYANA SASTRI *The Sāṃkhya Kārikā of Īśvara Kṛṣṇa* The University of Madras 1930 2 rupees 4s
- F J DINGWALL M A PH D *Ghosts and Spirits in the Ancient World* London Kegan Paul Trench Trubner & Co 1930 Pp 124 2s 6d
- F JORDAN *Theory of Legislation* Indianapolis U S A Progress Publishing Co 1930 Pp xx + 486
- G A GASKELL *Hellenic Scriptures Interpreted* London The C W Daniel Co 1930 Pp 239 7s 6d
- EVELYN UNDERHILL *Mysticism* (Twelfth edition revised) London Methuen & Co 1930 Pp xviii + 515 15s
- E R JAENSCH (Translation from the 2nd edition by Oscar Oeser Dr Phil) *Idelic Imagery and Typological Methods of Investigation* (International Library of Psychology and Philosophy) London Kegan Paul Trench Trubner & Co 1930 Pp 136 7s 6d
- C C J WEBB *Our Knowledge of One Another* (Annual Philosophical Lecture Henriette Hertz Trust) London Humphrey Milford & Co 1930 Pp 18 1s 6d
- PAUL ARTHUR SCHILFF 1859-1929 *Evolution Bergson Husserl Dewey* (Commemorative Essays) Privately published Stockton California 1930 Pp 47 1 dollar
- C J HUNT BA *Hamlet Reconsidered* (Reprinted from *Baconiana*) Pp 20
- AMATO MASNOVO *Da Guglielmo D'Amerigne a San Tomaso D'Aquino Volume primo Guglielmo D'Amerigne e l'ascensione verso Dio* Milano Società Editrice Vita e Pensiero 1930 Pp viii + 283 Lire venti
- A SPIR *Esquisse de Philosophie Critique* (Nouvelle édition) Introduction par Léon Brunschvicg Paris Librairie Félix Alcan 1930 Pp xvi + 167 15 frs
- C A STRONG *Essays on the Natural Origin of the Mind* London Macmillan & Co 1930 Pp vii + 304 12s
- The British Year Book of International Law* 1930 (Eleventh Year of Issue) London Oxford University Press Humphrey Milford 1930 Pp vi + 285 16s
- W D LIGHTHALL LL D *The Person of Evolution* Montreal Canada H A Kennedy & Co 1930 Pp 216

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- J H MUIRHEAD, M A, LL D *Coleridge as Philosopher* London George Allen & Unwin Ltd 1930 Pp 287 12s 6d
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CORRESPONDENCE

TO THE EDITOR OF THE *Journal of Philosophical Studies*

DEAR SIR

I cannot in the brief space of a letter vindicate my book *The Meaning of Beauty* against Mr R. G. Collingwood's attack in his review in the July issue. May I however be allowed to make a few comments?

Criticism of course I expect and have naturally received in other journals. But in no single case except Mr Collingwood's have I risen from reading a review with the unsavoury feeling that the reviewer was definitely lacking in the intention to be fair and just. In all other serious reviews I have felt that the critic had attempted an impartial appraisal both of what he thought to be the defects and the merits of the book. Mr T. E. Jessop's review in the January issue of *Mind* was a good example. Mr Collingwood's tone is hostile and even contemptuous. His review occupies over two thousand words, the whole of which is devoted to picking holes. There is not a single sentence acknowledging a solitary merit in the book. It reads as if he had sat down not with the wish to balance pros and cons and to judge impartially, but rather saying to himself: 'How can I most effectively damn this book?'

The reviewer says Mr Stace 'confesses that he has no idea what Croce means by æsthetic form'. I have confessed no such thing and this is a complete and no doubt intentionally damaging distortion of my words. The view expressed by me was that Croce's theory of intuition as a form of cognition is meaningless (cannot be rationally comprehended are my words). This may be true or false, but it is not a confession that I do not understand Croce. Mr Collingwood knows this quite well and yet he represents it as such, *omitting to quote my words*. It is difficult to attach the correct adjective to such methods of criticism.

It appears that in one sentence on music in my book the word *bass* is misprinted *base*. Would any fair minded critic be so petty as to make capital of this? Yet Mr Collingwood does. The musician, he says, 'if he can bring himself to be civil to a person who writes *base* when he means *bass*'. I will pass from your reviewer's sneers and misrepresentations to his efforts at serious criticism. His first point is that I have not made clear the distinction between perceptual and non-perceptual concepts, so that there remain doubts into which class one should place certain concepts. This is a complaint of failure to *define* correctly. If it is true, it is a defect in the book, and the critic is quite right to point it out. But this would not invalidate my general theory, because it is quite clear that the distinction is a real one, whether I have satisfactorily defined it or not. A reasoner's deduction from the fact that there is a distinction between lions and tigers would not be invalidated by his inability to give zoological or anatomical definitions of the species. So here you perceive a man as a man. You can never perceive him as an evolved being. There is a clear distinction between the kind of concept which is embedded in sense-perception and the kind which is not.

Your critic's next argument is that it is inconsistent to hold, on the one hand, that the concept is fused with the percept in the artist's mind, and yet, on the other, that the artist himself may not recognize it. If it is really there, the artist ought consciously to perceive his object, as an instance of the concept. If it is not, the whole theory falls to the ground. Not at all. Some artists may be fully conscious of the inner meaning (concept) of their work. With others it is more or less unconscious. This is common not only with artists, but with all men. Mr Collingwood is merely scratching up again the old supposed contradiction involved in unconscious thought. I advise him to study the passages in M. Wyndham Lewis's *Peacock* which discuss the work of D. H. Lawrence and show how that author

meant and was clearly driving at philosophical concepts of which he was undoubtedly unconscious

Finally the reviewer inquires how are we to know that the philosopher has extricated the right concept from the work of art? I answer that one can only know by using one's gumption. There is certainly no royal road here and if your critic's complaint is that I have not supplied a fool proof formula for understanding the meanings of all works of art I admit it. How does Mr Wyndham Lewis know that D. H. Lawrence meant and thought so and so? I have not the faintest idea. But I know that the man of fine perceptions is likely to agree with Mr Wyndham Lewis while the fool will remain out in the dark.

Yours very truly,

W. T. STACE

COLONBO CEYLON

July 2 1930

INSTITUTE NOTES

Michaelmas Term begins on October 6th and ends on December 19th

The following courses of lectures have been arranged, to begin in the Michaelmas Term of the Session 1930-31

'Modern Science and Philosophy,' a course of six lectures by Professor Leonard J. Russell, M.A., B.Sc., D.Phil., on Fridays at 5.45 p.m., at University Hall, 14 Gordon Square, W.C. 1, beginning October 10, 1930. Fee for the course, 12s. 6d. Members free.

'Modern Educational Ideas' a course of six lectures by Professor Helen M. Wodehouse, M.A., D.Phil., on Tuesdays at 5.45 p.m., at University Hall, 14 Gordon Square, W.C. 1 in the Michaelmas term, beginning October 14, 1930. Fee for the course 12s. 6d. Teachers, half fees. Members free.

'Introduction to Philosophy'—a class by the Director of Studies on Wednesdays, at 6 p.m., at University Hall, 14 Gordon Square, W.C. 1, in the Michaelmas and Lent Terms, beginning October 15th. Fee for the course, £1.15. Terminals 12s. 6d. Members free.

The full syllabus for the Session can be obtained on application to the Director of Studies, University Hall, 14 Gordon Square, W.C. 1.

The first of the Evening Meetings for the Session will be held at the Royal Society of Arts, 18 John Street, Adelphi, London W.C. 2, on Tuesday, October 14th, at 8.15 p.m., when Professor Sir Percy Nunn will give an address on 'The Philosophy of Professor Whitehead.'

It is hoped to form one or two reading circles at University Hall, Gordon Square, during the Session. Those desiring to join one of these should communicate with the Director of Studies.

WIRELESS "TALKS" ON PHILOSOPHY

A series of twelve Sunday Talks on 'Science and Religion' has been arranged by the B.B.C., to commence on September 28th (5.45-6.15 p.m.). The speakers are as follows: Professor Julian Huxley, Sir J. Arthur Thomson, Dr. J. S. Haldane, The Rt. Rev. E. W. Barnes, Professor Bronislaw Malinowski, The Very Rev. H. R. L. Sheppard, The Rev. Canon B. H. Streeter, The Rev. C. W. O'Hara, S.J., Sir Arthur Eddington, Professor S. Alexander, The Very Rev. W. R. Inge, Dr. L. P. Jacks.

Dr. Cyril Burt will give a series of six weekly "Talks" on 'The Mind of a Child,' on Tuesdays at 8 o'clock (Davertry 1554.4 metres only), beginning September 30th. Pamphlets on these "Talks" can be obtained from the B.B.C., or from any local B.B.C. Office, price 2d., 3d. post free.

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